TOSHIBA

FILE NO. 020-200111

SERVICE MANUAL

COLOR TELEVISION

N1NSP Chassis

50A61, 50A11

(TAC0171) *(TAC0172)*

61A61

(TAC0173)

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B).
   (See SETTING & ADJUSTING DATA on page 17)

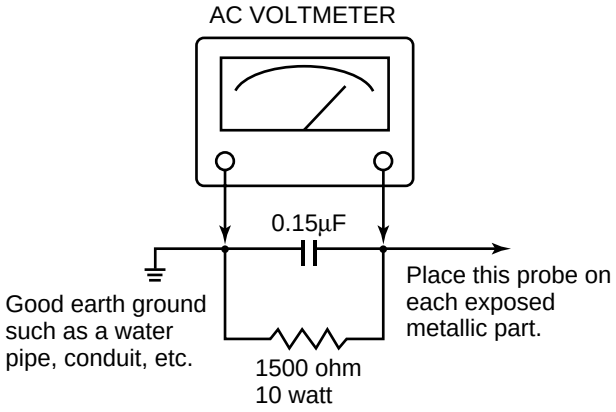
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

   Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 µF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

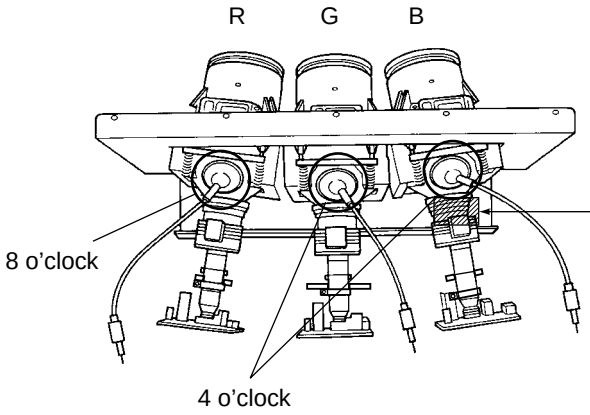

AC VOLTMETER
0.15µF
Good earth ground such as a water pipe, conduit, etc.
Place this probe on each exposed metallic part.
1500 ohm
10 watt

PRODUCT SAFETY NOTICE

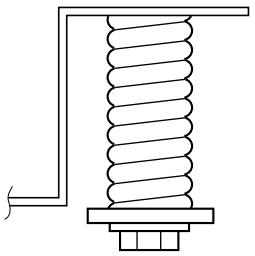
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

CRT ASSEMBLY REPLACEMENT AND MOUNTING

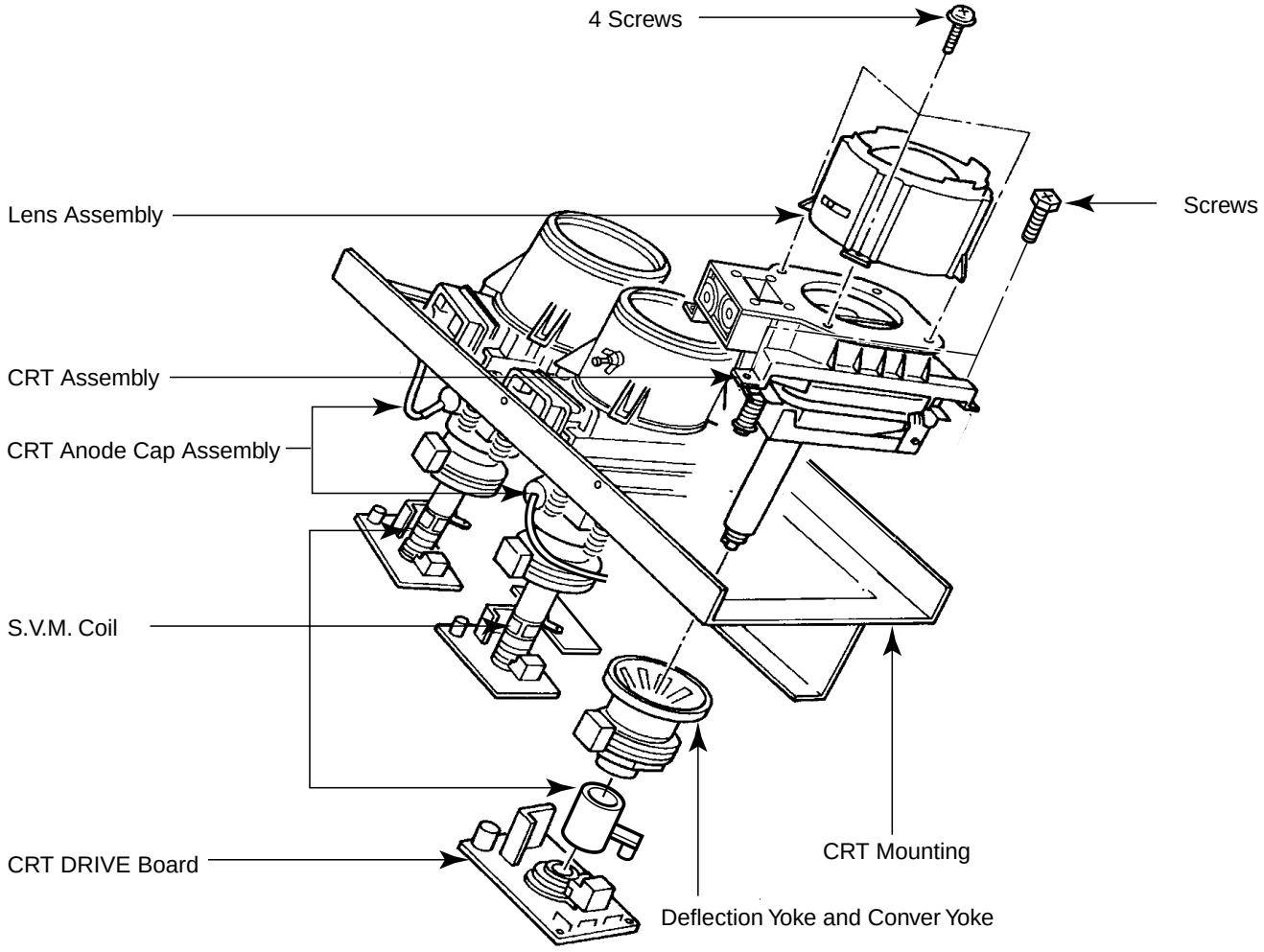
CAUTION : DO NOT LOOSEN THE HEX HEAD BOLTS WITH SPRINGS (12 PCS), BECAUSE THOSE ARE FOR SEALING OF CRT COOLANT.



Attention Serviceman



The Hex Head Bolts with Springs. (see sketch) used on CRT assembly, are "NOT" Adjustment Screws DO NOT LOOSEN-FLUID LEAKAGE WILL OCCUR.



Lens and Neck Components View

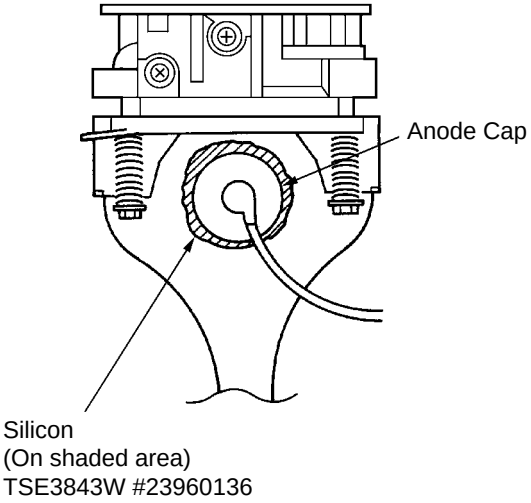
TO REMOVE CRT (Same procedure for R, G, B)

1. Remove CRT DRIVE Board, S. V. M. COIL and DEF. YOKE from CRT.
2. Remove Lens Assembly.
3. Detach CRT Anode Cap from CRT.
4. Remove CRT Assembly from CRT Mounting.

CRT REPLACEMENT (Same procedure for R, G, B)
Reverse the removal procedures except the followings.

1. Anode Cable should be replaced with new one. See “SERVICING PRECAUTIONS” shown below.
2. Install silicon (T461B) to the CRT, replace the Anode cable and put enough silicon again on around the Anode Cap as illustrated.

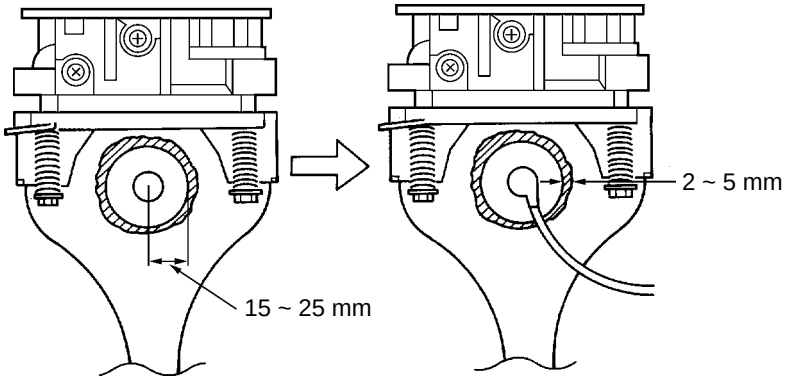
CAUTION: Align the Anode cable as illustrated on page 4.



ADJUSTING PROCEDURE IN REPLACING CRT

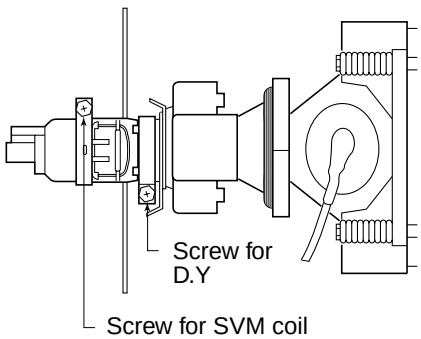
1. R.G.B. FOCUS ADJUSTMENT (page 6.)
2. PICTURE TILT ADJUSTMENT (page 6.)
3. USER CONVERGENCE CENTER CHECK (See owner's manual.)
4. CENTERING ADJUSTMENT (page 6.)
5. CONVERGENCE ADJUSTMENT (page 13.)
6. WHITE BALANCE ADJUSTMENT (page 12.)

Adjustments are complete.



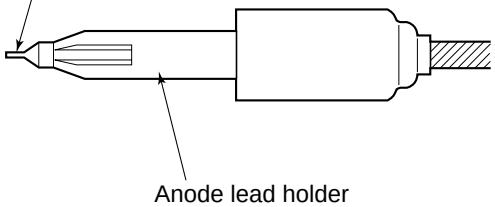
SERVICING PRECAUTIONS

■ Do not use a magnetized screw driver for screws of Deflection Yoke and Velocity Modulation Coil to avoid magnetization of electron gun. Magnetization of electron gun will degrade basic function and result in unbalance of right and left shift of user static convergence, and result in no variable quantity.



■ When replacing the anode cap assembly (CRT) or anode lead assembly (F.B.T.), remove the anode lead holder from old one and attach the holder again to new anode lead.

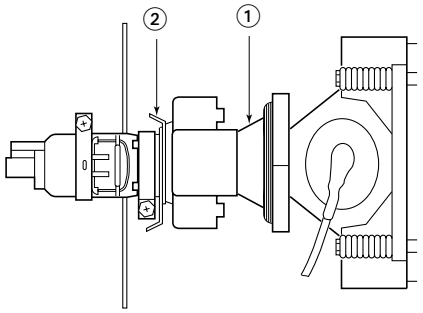
■ Check the point of anode lead in a straight line, if it is winding, please revise it.



WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

PICTURE TUBE COMPONENTS ADJUSTMENT

DESCRIPTION OF NECK COMPONENTS



① Deflection yoke and convergence yoke
The position on the neck is required most front (CRT funnel side) and the screw is fastened after rotating yoke adjusting picture tilt.

② Centering magnet
After adjusting picture tilt, picture position is finally fixed by this magnet.
In order to get maximum margin of user convergence control for center of screen, this magnet have to be used for center convergence adjustment.

PREPARATION
Operate the receiver for at least 5 minutes.

R, G, B FOCUS ADJUSTMENT

1. Before adjusting the R, G, B FOCUS, remove the 4 screws of Lens Assembly which is fixed on the CRT Assembly. (See page 4.)
   Then turn around the Lens Assembly by 180˚ to adjust the fastening screw (Fig. a) and fasten the 4 screws to secure Lens Assembly.
2. Select the adjustment mode. (See page 9.)
3. Press "7" button to display the built-in cross-hatch.
4. Press "0" and "RTN" buttons to make the picture a single Red color.
   100 button ..... to erase Red color
   0 button ..... to erase Green color
   RTN button ..... to erase Blue color
5. Loosen the fasten screw and adjust Red lense focus to best focusing point of picture center. Then fasten the screw. (See Fig. a.)

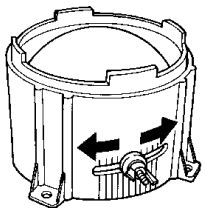


Fig. a

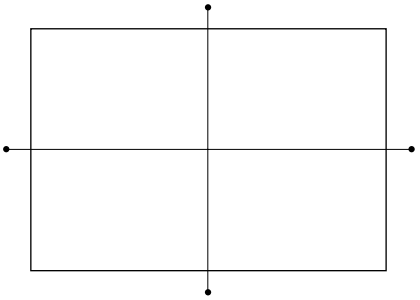
6. Adjust FOCUS VR "R" of FOCUS PACK to find best focusing point of picture center.
7. Repeat steps 3 to 5 for Green and Blue colors.

TILT ADJUSTMENT

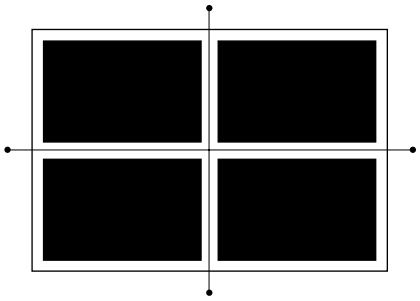
Rotate R, G, B deflection yoke so that picture becomes horizon, then fasten screw.

CENTERING ADJUSTMENT

1. Stretch a thread between two center slots of screen edge (top and bottom, left and right).

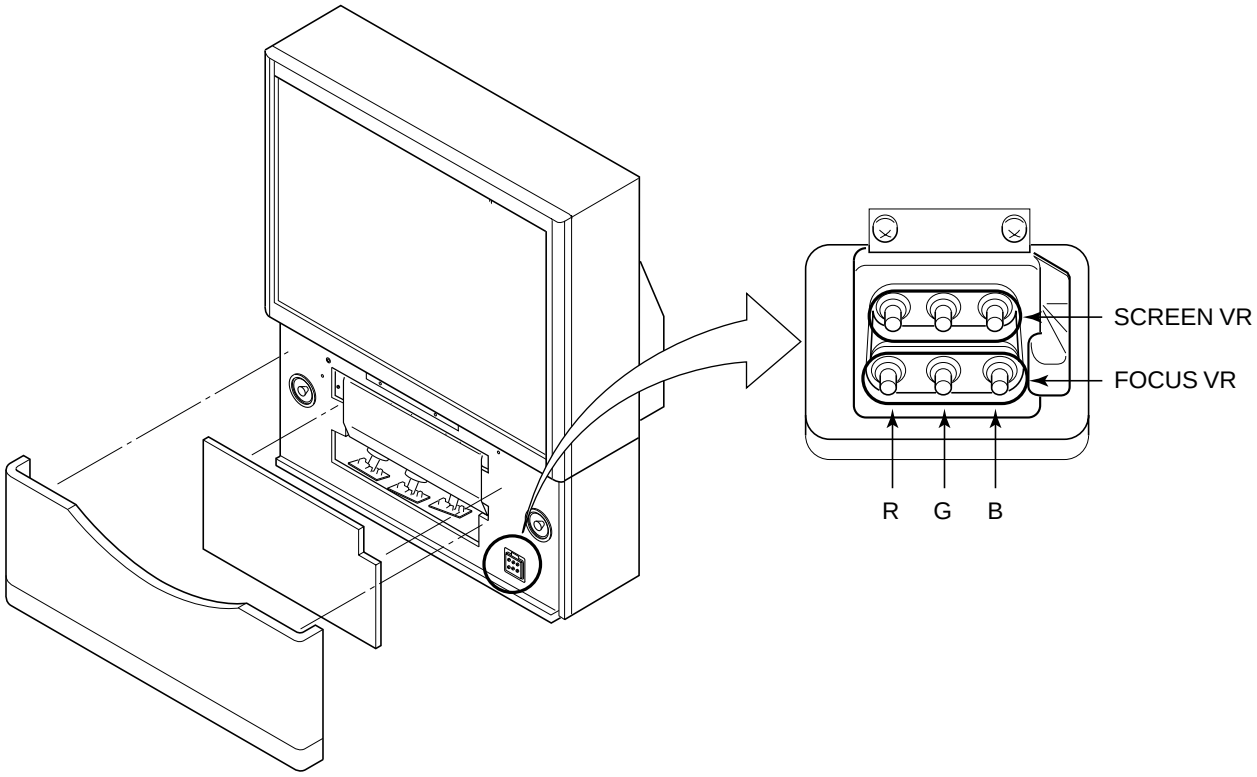


2. Select the adjustment mode.
3. Press TV/VIDEO button on the Remote Control to display the white cross-bar.



4. Perform VCEN adjustment. (See page 11.)
5. Adjust G centering magnet so that the cross-bar pattern center comes to screen center.
6. Perform HEIGHT adjustment . (See page 12.)
7. Perform VERT. LINEARITY adjustment.
8. Perform WIDTH adjustment. (See page 12.)
9. Check whole quality of green line.
10. Adjust R, B centering magnet so that the cross-bar pattern center comes to screen center.

LOCATION OF SCREEN AND FOCUS VR'S

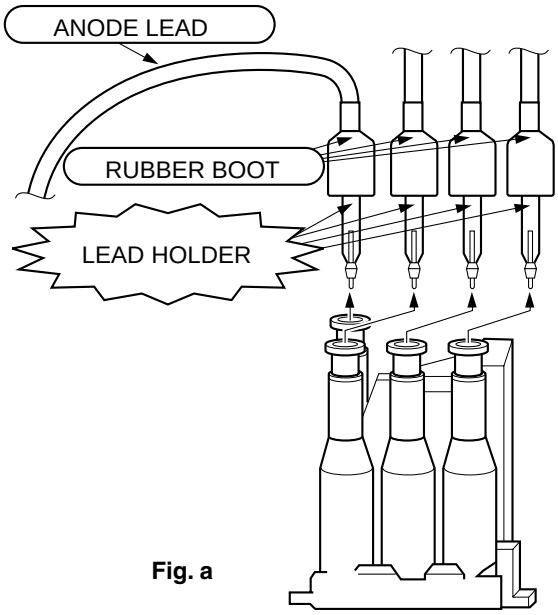


REPLACEMENT OF THE CRT

Service parts are provided for each R, G and B.
The contents of the parts are as follows.

		R	G	B
CRT	50A61	23008509	23008510	23008511
	50A11	↑	↑	↑
	61A61	23008625	23008626	23008627

REPLACEMENT OF HIGH VOLTAGE CABLE



Z450 TPA5007

Fig. a

1. When replacing Anode Lead or Anode Cap with new one, remove Lead Holder from old lead as shown in figure below, and put it on new lead. Do not throw away Lead Holder.

NOTE : THE LEAD HOLDER IS ATTACHED TO TPA5007 (Z450), BUT IS NOT ATTACHED TO ANODE LEAD AND ANODE CAP. RUBBER BOOT IS ATTACHED TO ANODE LEAD AND ANODE CAP.

2. Detaching Lead Holder

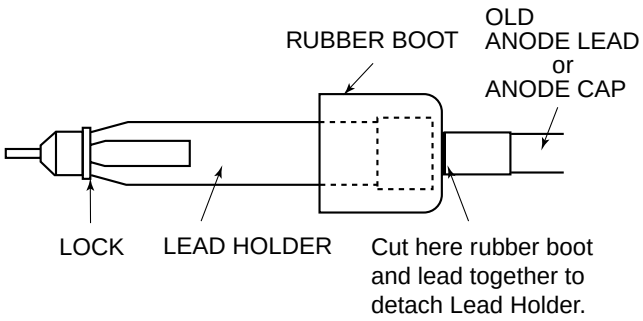


Fig. b

SERVICE MODE

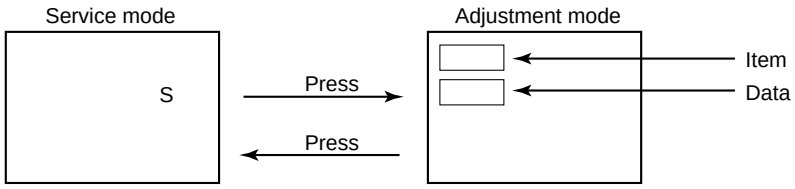
1. ENTERING TO SERVICE MODE

1) Press MUTE button once on Remote Control.
2) Press MUTE button again to keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Screen adjustment mode ON/OFF:	TV (ANT)/VIDEO button (on TV)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/▼ (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02) :	RECALL+Channel button on TV (▲)
Initialization of the self diagnostic data:	RECALL+Channel button on TV (▼)

“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“SCNT” selection :	4 button
“SCOL” selection :	5 button
“TNTC” selection :	6 button
Convergence adj :	7 button
Test audio signal ON/OFF (1kHz) :	8 button
Self diagnostic display :	9 button

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 17)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ▲ or ▼ button will cahnge the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

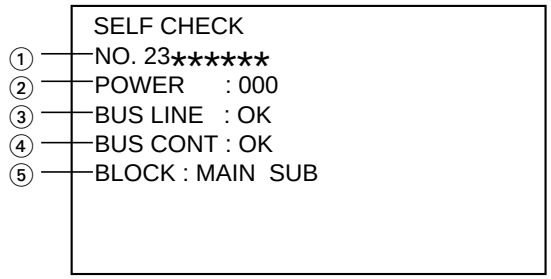
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Programming Channel Memory” on the owner's manual.

CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode. The diagnosis will begin to check if interface among IC’s are executed properly.
2) During diagnosis, the following displays are shown.

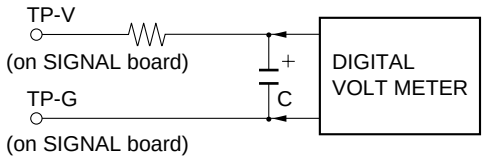
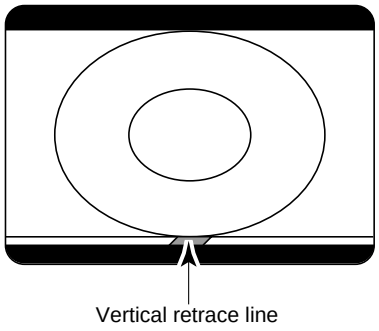
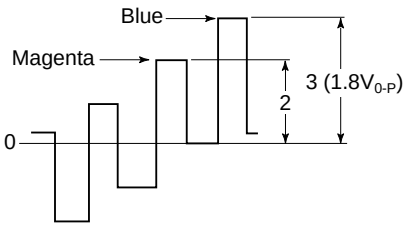
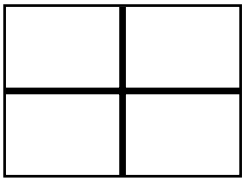


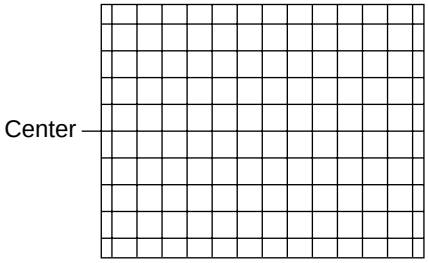
① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “SCL-GND” or “NG” ..... SCL-GND short circuit
- “SDA-GND” or “NG” ..... SDA-GND short circuit
- “SCL-SDA” or “NG” ..... SCL-SDA short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal
- Display of Location Number . . . . NG
- (Display example)
- “QA02 NG”, “H001 NG”, “Q501 NG” etc.
- Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

⑤ Sync. signal check
- Green display ..... Normal
- Red display ..... NG
  - MAIN ..... Main sync
  - SUB ..... Sub sync (when turn on the PIP)

ELECTRICAL ADJUSTMENT

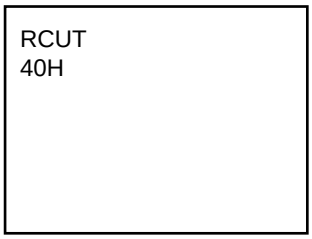
ITEM	ADJUSTMENT PROCEDURE
VERTICAL POSITION (VCEN)	1. Call up the adjustment mode display, then select item VCEN. 2. Press the VOLUME ▲ or ▼ button to get the voltage +30 ±10 mV. 3. Measuring method of voltage as follows. 
SUB-BRIGHTNESS (BRTC)	1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board. 2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center. 3. Enter the service mode, then select "**BRTC**" register. 4. Adjust the data value so the belt of vertical retrace line just disappear. 5. Adjust the HEIGHT control. * Adjust the SUB-BRIGHTENESS after adjusting the WHITE BALANCE. 
SUB-COLOR (SCOL) SUB-TINT (TNTC)	1. Receive color-bar signal from color-bar generator. 2. Adjust the BRIGHTNESS and CONTRAST to the center (RESET status). 3. Connect oscilloscope to TP501on the MAIN board. 4. Enter the service mode, then select "**SCOL**". 5. Temporarily adjust the data value to achieve about $1V_{0\text{-}p}$ of blue bar. 6. Select "**TNTC**" register. 7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown. 8. Select "**SCOL**" register. 9. Adjust the data value to achieve $1.8V_{0\text{-}p}$ of blue bar on scope. 10. Check the picture with off-air signal. 
SUB-CONTRAST (SCNT)	1. Tune in a color program and adjust the BRIGHTNESS and CONTRAST to normal mode(RESET). 2. Enter the service mode, then select "SCNT" register. 3. Change "SCNT" data to13H. 4. Check the picture contrast.
PICTURE POSITION	1. Receive the pattern signal which shows it's center on the screen. 2. Adjust the picture position alternately by turning CENTERING MAGNETS for proper picture position. 3. Check the picture with off-air signal. 

ITEM	ADJUSTMENT PROCEDURE
HEIGHT (HIT)	1. Call up the adjustment mode display, then select the item HIT. 2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 10 steps. Note : Check the vertical picture position is correct.
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 10 steps. Note : Check the horizontal picture position is correct.
VERTICAL LINEARITY (VLIN)	1. Call up the adjustment mode display, then select the item **VLIN**. 2. Receive cross-hatch pattern signal. 3. Press the VOLUME ▲ or ▼ button to obtain the picture of the best linearity. 4. Then readjust the item HIT. 
WHITE BALANCE (RCUT) (GCUT) (BCUT) (RDRV) (BDRV)	1. Press RESET button on TV or remote hand set. 2. Call up the adjustment mode display, then adjust the data of items **RCUT**, **GCUT** and **BCUT** to “40”. 3. Press TV (ANT)/VIDEO button on TV. 4. Gradually rotate R, G and B SCREEN volume of FOCUS PAC (page 7) clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them. (Look into the lens in order to check the raster.) 5. Press TV (ANT)/VIDEO button on TV again. 6. Exit from service mode. 7. Receive white laster pattern signal, and adjust the contrast to the minimum to make white picture to low light. 8. Adjust the data of items **RCUT**, **GCUT** and **BCUT** for low light area. 9. Adjust the contrast to the maximum to make white picture to high light. 10. Adjust the data of items **GDRV** and **BDRV** Controls for proper white-balanced picture in high light area. 11. Check the white balance in both low and high light areas. If necessary, perform again steps from 7 to 9. * The data of item GDRV changes red drive actually.

CONVERGENCE ADJUSTMENT

Adjust convergence from center to circumference in order.

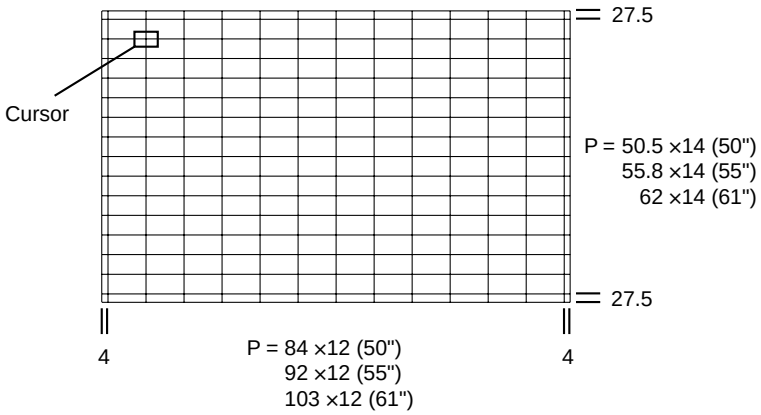
1. Select the adjustment mode following the steps on page 9.



KEY FUNCTION IN THE CONVERGENCE ADJUSTMENT:

Up :	2 button
Selet Green color:	3 button
Left :	4 button
Blinking of cursor ON/OFF:	5 button
Right:	6 button
Adjust mode ON/OFF:	7 button
Down:	8 button
Erase Green line:	0 button
Erase Red line:	100 button
Erase Blue line:	CHRTN (ENT) button

2. Press “7” button to display the built-in cross-hatch pattern.



Note:
Adjusting procedure in replacing convergence board.

1. User convergence center check. Make sure the best convergence setting is about the center of adjustable range.
2. CENTERING ADJUSTMENT
3. PICTURE POSITION ADJUSTMENT
4. HIT, WID ADJUSTMENT
5. CONVERGENCE ADJUSTMENT

The pattern includes three colors (R, G, B).
The cursor should be blinking in Red.
This means that the Red color is adjustable.
Adjustment around cursor can be done.

3. Press “3” button to select Green color to be adjusted.
4. Press “5” button to stop the blinking of cursor.
5. Press “2 (up)”, “8 (down)”, “4 (left)” or “6 (right)” to obtain the correct cross-hatch pattern as above.
   If necessary, the specified color line can be erased from the screen.
   100 button ..... to erase Red line
   0 button ..... to erase Green line
   RTN (ENT) button ..... to erase Blue line
6. Press “5” button to make the cursor blinking.
7. Press “2”, “8”, “4”, “6” buttons to move the cursor to other point to be adjusted.
8. Repeat steps 4 to 7.
9. Repeat steps 3 to 8 to adjust Red and Blue colors.
   Converge the selected color line into the Green line.
10. Press “7” button to enter the adjusted states.
    At this time, picture changes for about 1 second.
11. Press “7” button again to return to the normal picture.

NOTES

In many cases, color misconvergence may be corrected by returning HIT and WID data in main deflection side to initial adjusting values. Following cases will surely require readjustment of convergence.

CRT REPLACEMENT

When CRT is replaced, main deflection readjustment and color matching are required.
Perform following procedures.

1. Replace two CRT's of blue and red.
2. Perform horizontal adjustment for blue and red yokes on base of green CRT data. Mount yoke and velocity mod. coil alignment, pushing towards CRT without gap.
3. Adjust alignment of blue and red. (Refer Alignment adjustment for details.)
4. Rotating centering magnet, adjust CRT centers of red and blue to CRT center of green.
   (Picture position adjustment)
5. Adjust HIT and WID data of main deflection, and decide data at the most precise screen comparing to green data.
6. Adjust convergence of each screen picture for color matching. Do not move green one at this time.
7. After convergence adjustment of each screen picture finishes, replace green CRT.
   For green CRT as well, repeat steps 2 to 5 above on bases of red and blue color matching to adjust convergence.

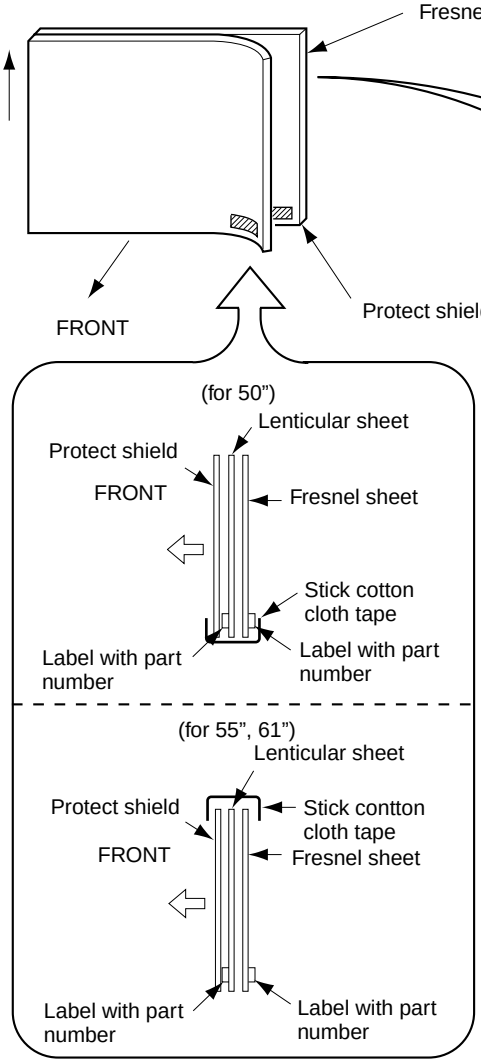
REPLACING CONVERGENCE UNIT

When replacing convergence unit, all picture screens require readjustment basically, but the following method allows process be reduced considerably.

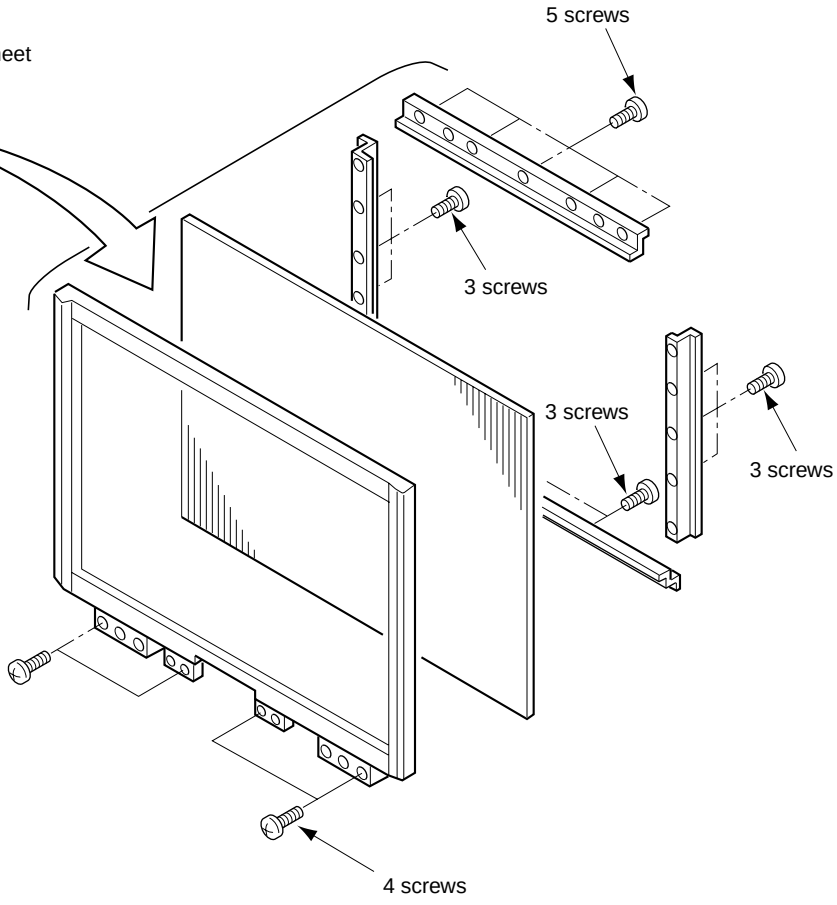
1. Replace the memory (Q713) on defective unit with memory on new unit. Mounting the unit on the SET after the above working realizes picture screen before replacement immediately.
2. Mount unit which has combination of old and new memories, on SET and turn it on. Screen shows whole picture looks like straightly shifted towards vertical or horizontal direction.
3. Adjust again centers of green, red and blue with centering magnets.
4. Check each picture screen for slight disparity of color and picture size. If necessary, add some adjustments of main deflection and color matching of convergence.

SCREEN AND MIRROR ALIGNMENTS

ASSEMBLING OF FRONT SCREEN



MOUNTING OF FRONT SCREEN



* Please refer to Mechanical Disassembly on page 21.

CAUTION : Do not hold the optical system parts (lens and mirror) with bare hand to avoid finger-prints on the surface of those parts.

HOW TO CLEAN LENS AND MIRROR

1. Be sure to remove sand dust with an air brush, etc.
2. When it is stained slightly, breathe upon it and wipe away with the specified cleaning cloth.
   For other stains than the above, wipe the stains away with the specified cloth into which a cleaning liquid has been soaked.

Cleaning liquid..... **LENS LUSTER** (Manufactured by Edmund Scientific Co.), etc.

HOW TO CLEAN SCREEN

When cleaning the screen, use a soft cloth so as not to damage the screen.

1. Wipe the screen with a dry cloth to remove moisture on the screen.

Note : Absolutely do not use detergent, water, alcohol, benzine, thinner, etc. for cleaning in order not to wipe away the black print on the surface.

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 17)
4. Vary the BRIGHTNESS to both extremes to be sure the high voltage does not exceed the limit under any conditions.

CAUTION:
When the following parts fail, check the High Voltage after replacing.

Location No.	Name	Name
T461	Flyback Trans.	TFB3078ZD
C447	Capacitor	3900pF, ±3%
C406	Capacitor	1500pF, ±3%
C407	Capacitor	4700pF, ±3%

ANODE VOLTAGE MEASURING METHOD

CAUTION: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, DEFLECTION assembly, and POWER SUPPLY assembly).

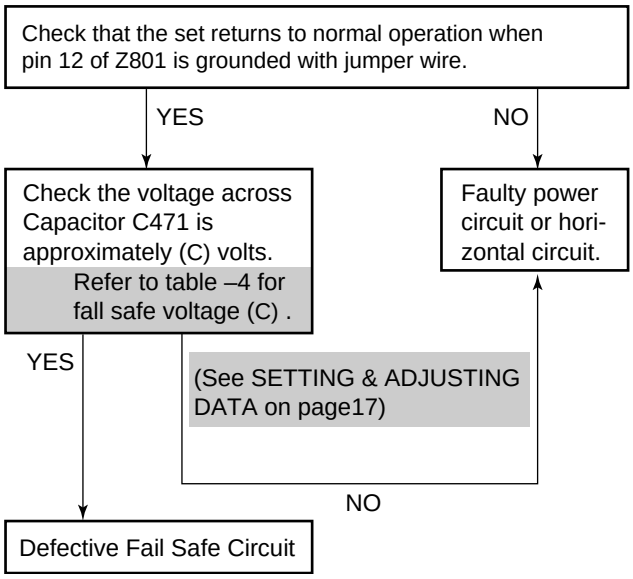
1. Disconnect the FBT anode cable as outlined below. Measure high voltage at the point where the cable enters the FBT.
2. Holding the rubber cover firmly, turn it counterclockwise and check that the lock has been disengaged. (See Fig. b on page 8.)
3. Determine the extent of the rubber cover before disconnecting the cable.
4. Pull straight up the anode cable to disconnect.
5. When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on.
2. Temporarily short TP- (R) and TP- (X) on the DEF/POWER Board with a jumper wire.
   Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the receiver on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit


Check that the set returns to normal operation when pin 12 of Z801 is grounded with jumper wire.
YES
NO
Check the voltage across Capacitor C471 is approximately (C) volts.
Refer to table –4 for fall safe voltage (C) .
Faulty power circuit or horizontal circuit.
YES
(See SETTING & ADJUSTING DATA on page17)
NO
Defective Fail Safe Circuit

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		50", 61"
HIGH VOLTAGE AT ZERO BEAM:	(A)	31.3 kV
MAX HIGH VOLTAGE:	(B)	32.4 kV

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:

Item	Name of adjustment	Preset	Date
RCUT	R CUTOFF	80H	←
GCUT	G CUTOFF	80H	←
BCUT	B CUTOFF	80H	←
GDRV	G DRIVE	40H	←
BDRV	B DRIVE	40H	←
CNTX	SUB CONT MAX	7FH	←
BRTC	SUB-BRIGHT	80H	←
COLC	SUB-COLOR	50H	←
TNTC	SUB-TINT	44H	←
SCOL	SUB COLOR	05H	←
SCNT	SUB-CONTRAST	10H	←
HPOS	HORIZ. POSITION	19H	16H
VPOS	VERT. POSITION	00H	←
HIT	HEIGHT	64H	←
LIN	V-LINEARITY	12H	←
VSC	V-S CORRECTION	10H	←
WID	PICTURE WIDTH	28H	←
VPS	V-SHIFT	18H	←

Item	Name of adjustment	Preset	Date
VCP	V-COMPENSATE	0AH	←
PARA	E-W PARABOLA (DPC)	29H	←
CNR	E-W CORNER	08H	←
TRAP	TRAPEZIUM	10H	←
HCP	H-COMPENSATE	00H	←
VFC	V-F CORRECT	00H	←
PHUE	PIP TINT	00H	←
PCNT	PIP CONT	00H	←
PCOL	PIP COLOR	0FH	←
RGBB	RGB BRIGHT	54H	←
PROF	PIP R OFFSET	00H	←
PBOF	PIP B OFFSET	00H	←
PGOF	PIP YG OFFSET	00H	←
STRH	START H	67H	←
STRP	START PTN	8AH	88H
VLD	VLD	41H	←
VCEN	V POSITION	81H	←
TVOP	TV OPTION	00H	←

Table-2

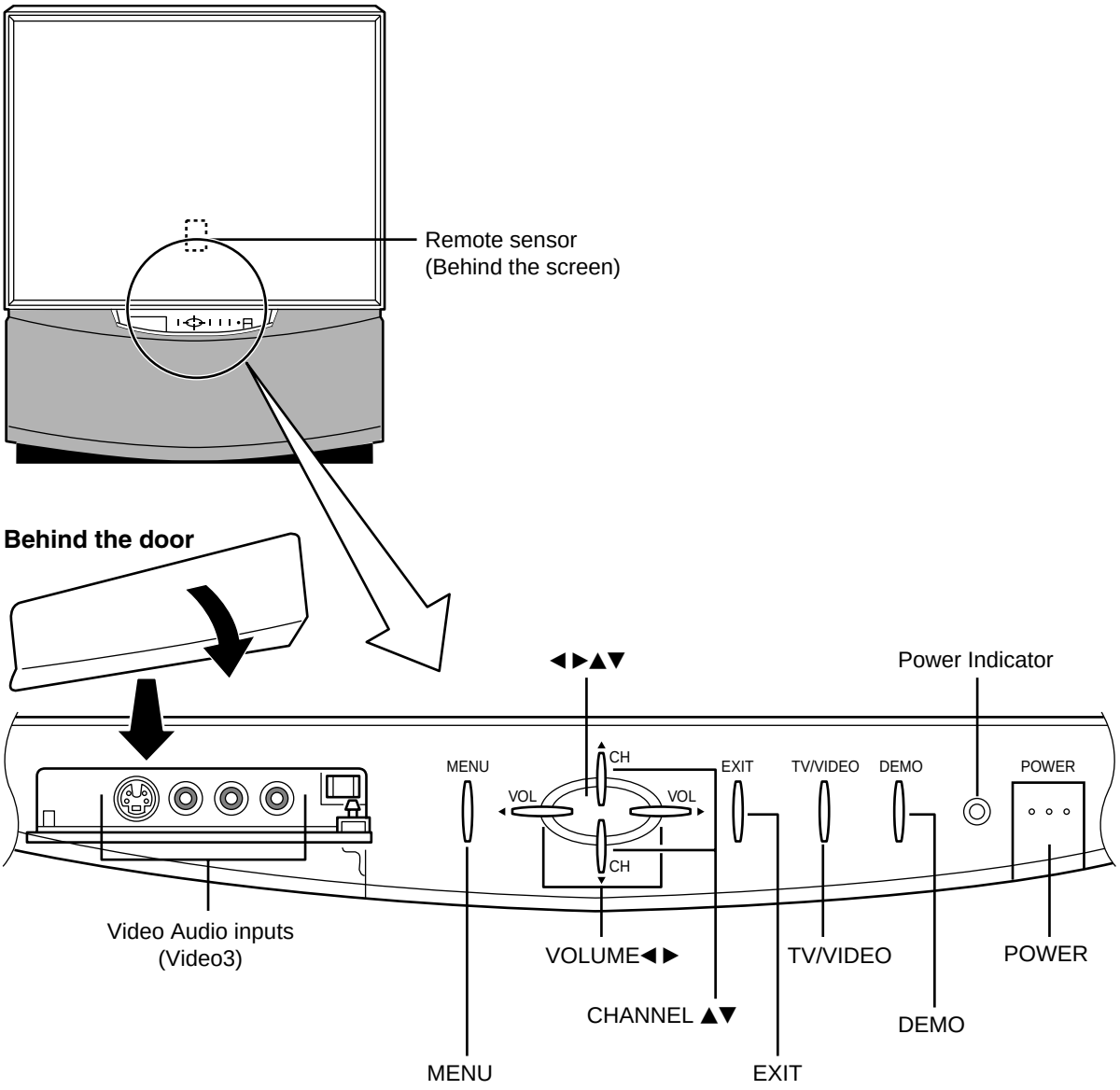
【CIRCUIT CHECKS】

FBT DETECTION VOLTAGE	(C)	24.5V

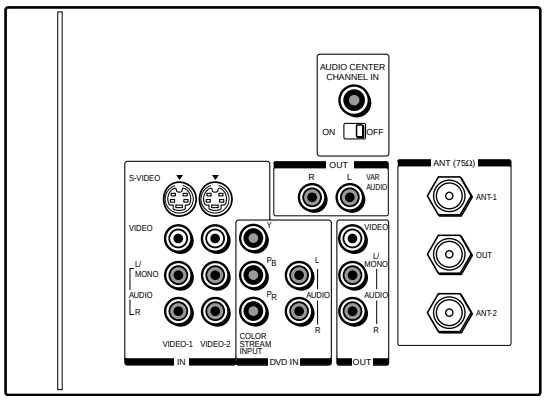
Table-3

LOCATION OF CONTROLS (Representative : 50A61)

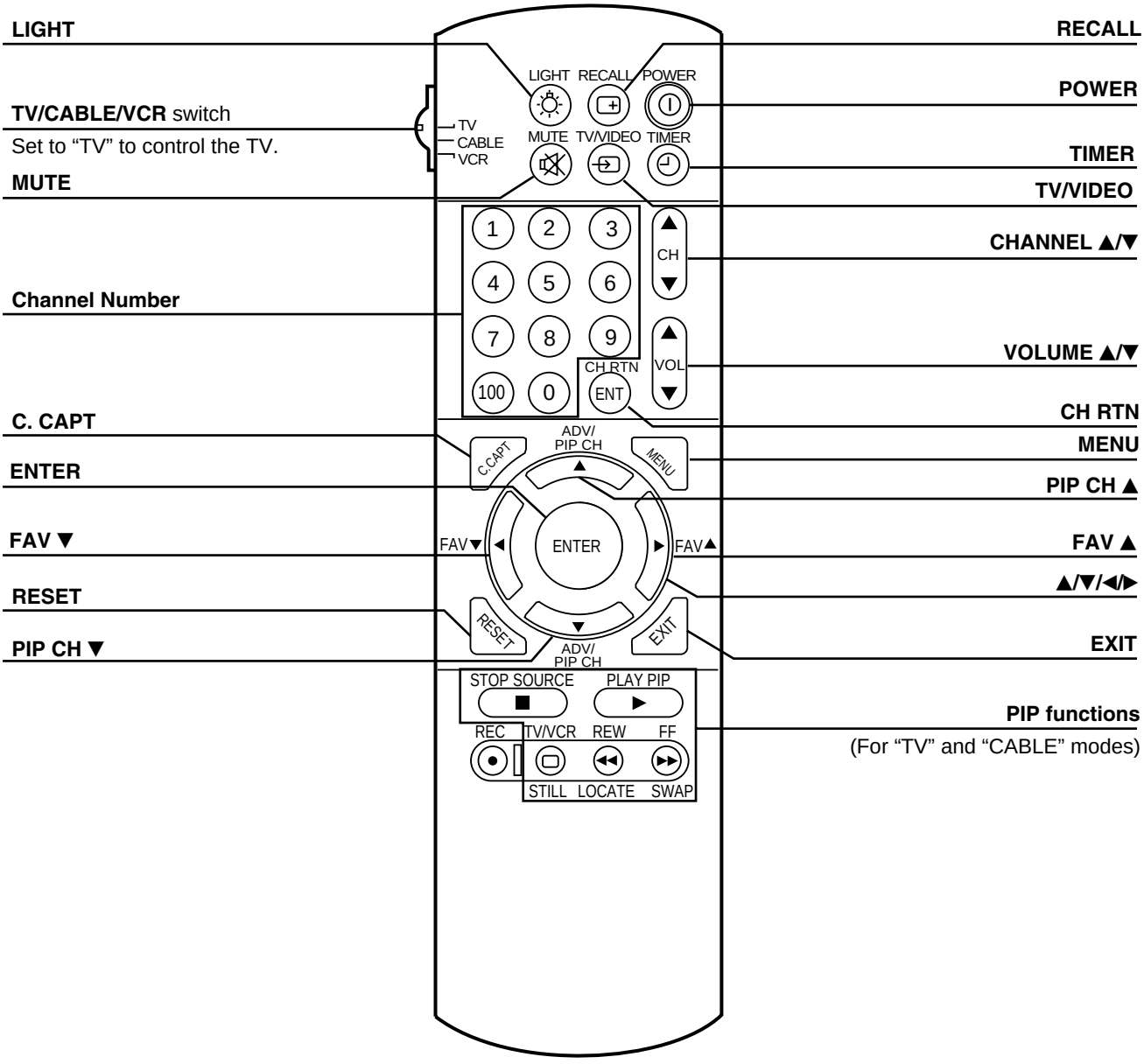
TV front



TV rear



Remote Control



PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers the TV tunes in when you press the CHANNEL ▲ or ▼ button.
First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.
Note: If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.

TV/CABLE function

1 Press **MENU**, then press ► or ◄ until the SET UP menu appears.

2 Press ▼ (or ▲) until "TV/CABLE" is highlighted.

3 Press ► or ◄ to highlight either "TV" or "CABLE", whichever you use.

CH PROGRAM function

1 Select "CH PROGRAM" following steps 1 and 2 above.

2 Press ► or ◄ to start channel programming.
The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.

3 When channel programming is complete, you will see the message to the right appears.

4 Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

1 Select the channel you want to erase using the **CHANNEL** ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.

2 Press **MENU**, then press ► or ◄ until the SET UP menu appears.

3 Press ▼ (or ▲) until "ADD/ERASE" is highlighted.

4 Press ► or ◄ :
To erase the channel press the button until "ERASE" is highlighted.

To add the channel press the button until "ADD" is highlighted.

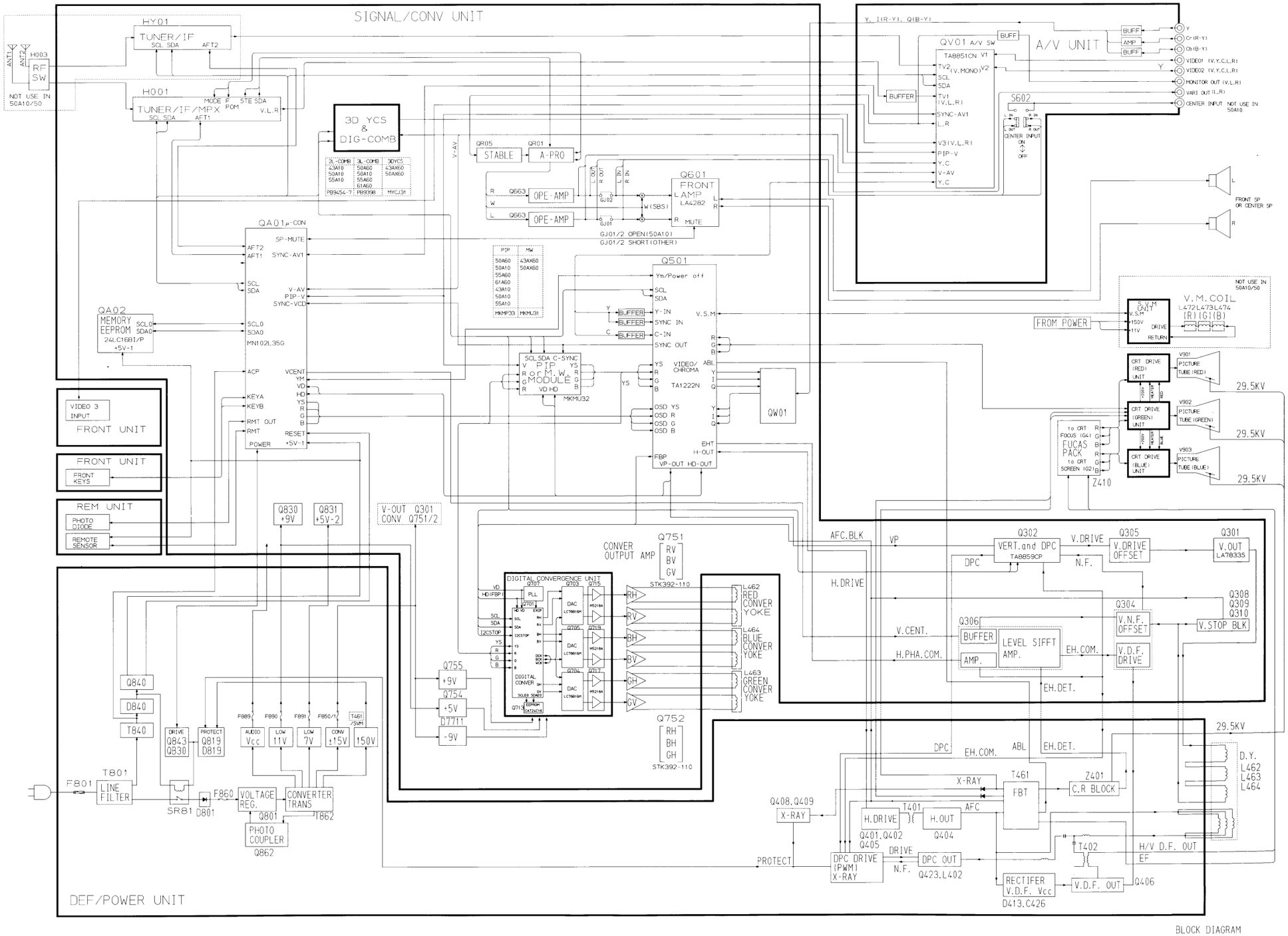
5 Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

Note: The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

* Please refer to owner's manual in detail.

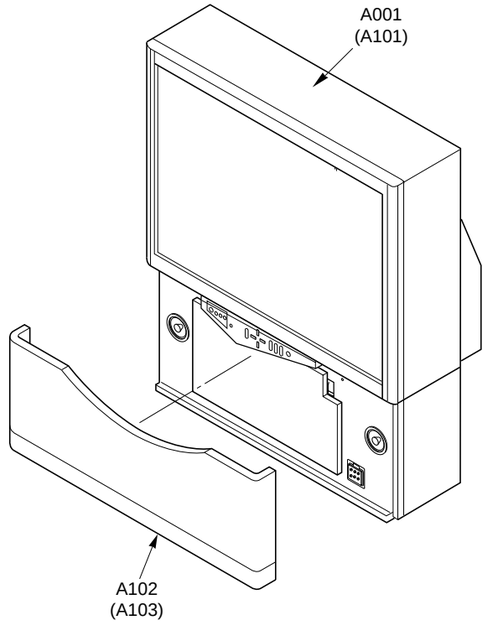
CIRCUIT BLOCK DIAGRAM



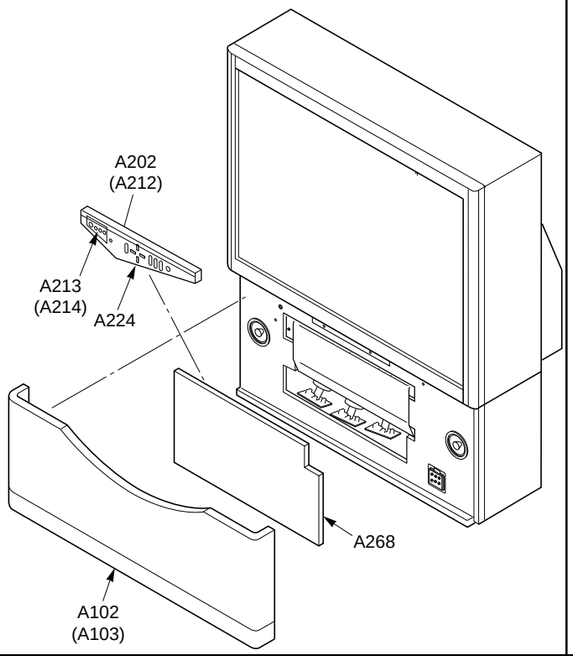
BLOCK DIAGRAM

MECHANICAL DISASSEMBLY

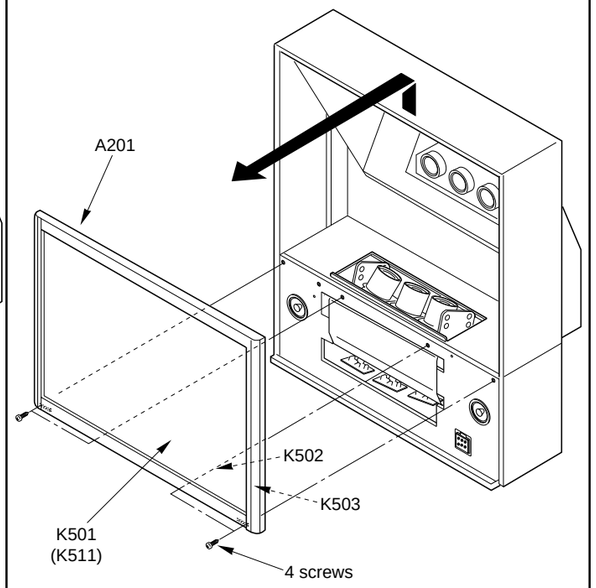
1 Speaker Grille Removal



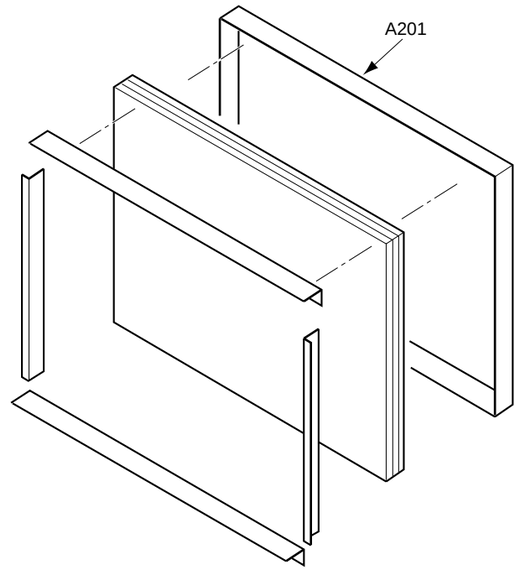
2 Control Panel Removal



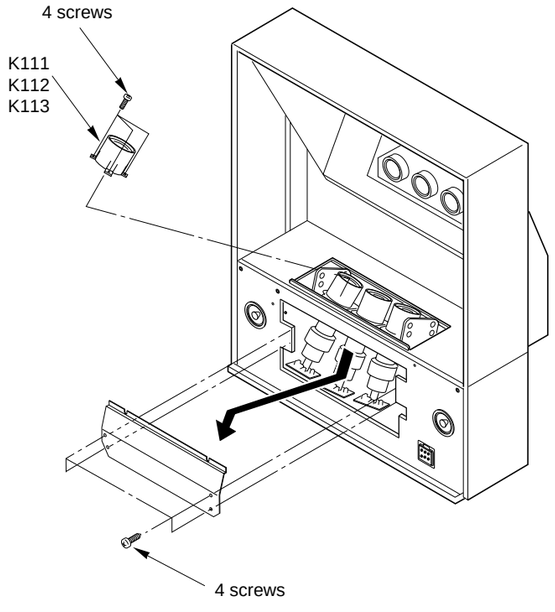
3 Front Mask Removal



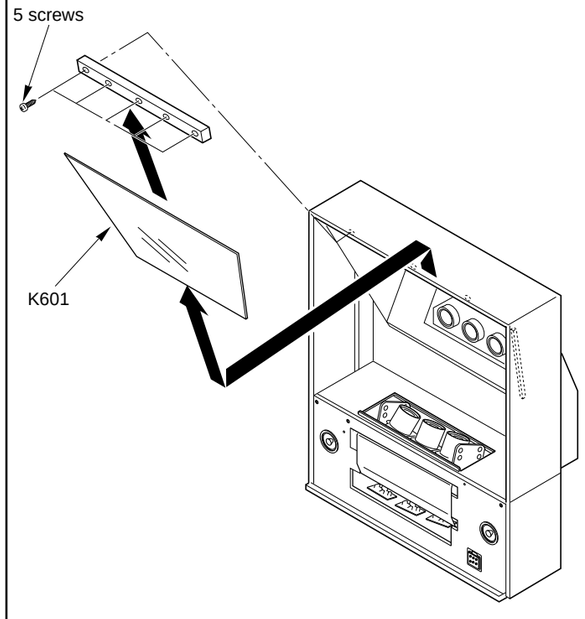
4 Mask Removal



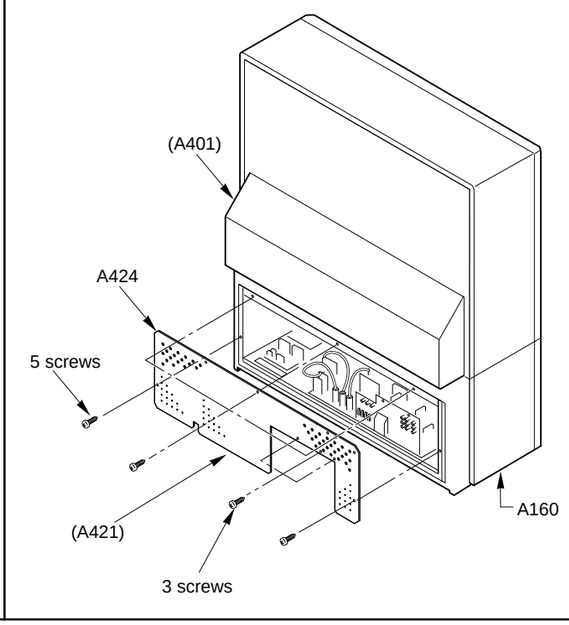
5 Shield Plate, Lens Removal



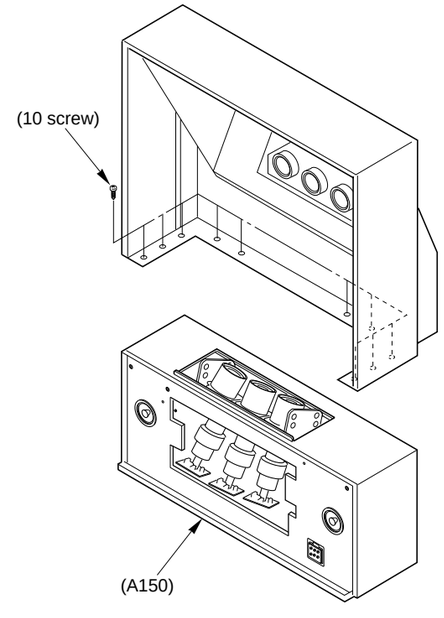
6 Mirror Removal



7 Back Board Removal



8 Light Box Removal



CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with ✶ mark is no longer available after the end of the production.*

Models : 50A61/50A11/61A61

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C102	24665221	ELECTROLYTIC CE04Q 10V 220UF M 3A
C105	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C106	24669479	ELECTROLYTIC CE04Q 50V 4.7UF M 3A
C107	24666221	ELECTROLYTIC CE04Q 16V 220UF M 3A
C112	24665221	ELECTROLYTIC CE04Q 10V 220UF M 3A
C115	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C117	24666221	ELECTROLYTIC CE04Q 16V 220UF M 3A
C151	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C201	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C203	24092730	CERAMIC CHIP CK73B
C204	24669010	ELECTROLYTIC CE04Q 50V 1.0UF M 3A
C205	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
C206	24092398	24092398A NI TOOITSU 25V 100000pF Z
C207	24105390	CERAMIC CHIP CC73CH 50V 39PF J
C208	24105390	CERAMIC CHIP CC73CH 50V 39PF J
C209	24105390	CERAMIC CHIP CC73CH 50V 39PF J
C212	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C214	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C301	24092730	CERAMIC CHIP CK73B
C302	24092753	CERAMIC CHIP CK73B 10V 220NF K
C303	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C304	24092730	CERAMIC CHIP CK73B
C305	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C306	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C307	24617912	ELECTROLYTIC CE04CH 50V 2.2UF K 3A LI
C308	24109183	CERAMIC CHIP CK73B 50V 18000PF K
C309	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C311	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C312	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C313	24092743	CERAMIC CHIP CK73F 10V 470NF Z
C314	24092730	CERAMIC CHIP CK73B
C315	24666222	ELECTROLYTIC CE04Q 16V 2200UF M 3A
C316	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C317	24109222	CERAMIC CHIP CK73B 50V 2200PF K
C318	24109222	CERAMIC CHIP CK73B 50V 2200PF K
C319	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A (50A61/61A61)
C320	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C321	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C322	24109393	CERAMIC CHIP CC73B 25V 39NF K
C323	24092748	CERAMIC CHIP CK73B 16V 56NF K
C324	24669101	ELECTROLYTIC CE04Q 50V 100UF M 3A
C325	24082057	PLASTIC FILM CF922 M 100V 220000PF J
C326	24092753	CERAMIC CHIP CK73B 10V 220NF K (50A61/61A61)
C327	24092753	CERAMIC CHIP CK73B 10V 220NF K
C328	24082260	PLASTIC FILM CQ922 M 100V 4700PF J
C329	24669100	ELECTROLYTIC CE04Q 50V 10UF M 3A (50A61/61A61)
C330	24085946	ELEC. NONPOLAR CE04R 16V 10UF M NP 3A (50A61/61A61)
C331	24109333	CERAMIC CHIP CK73B 25V 33000PFK
C332	24669221	ELECTROLYTIC CE04Q 50V 220UF M 3A
C333	24693473	PLASTIC FILM CQ921 M 100V 0.047MF J
C334	24591471	PLASTIC FILM, 50V 470PF J
C335	24092730	CERAMIC CHIP CK73B (50A61/61A61)
C336	24109472	CERAMIC CHIP CK73B 50V 4700PF K (50A61/61A61)
C350	24669229	ELECTROLYTIC CE04Q 50V 2.2UF M 3A
C351	24092730	CERAMIC CHIP CK73B
C352	24669229	ELECTROLYTIC CE04Q 50V 2.2UF M 3A
C380	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A (50A61/61A61)
C401	24092730	CERAMIC CHIP CK73B
C401	24214821	CERAMIC DISK CK45 B 500V 820PF K
C402	24109223	CERAMIC CHIP CK73B 25V 22000PF K
C402	24214391	CERAMIC DISK CK45 B 500V 390PF K
C403	24678100	ELECTROLYTIC CE04Q 200V 10UF M 3A
C404	24669229	ELECTROLYTIC CE04Q 50V 2.2UF M 3A
C404	24212152	CERAMIC DISK CK45 B 50V 1500PF K
C405	24567124	PLASTIC FILM CF92 M 50V R12UF J
⚠ C406	24082823	PLASTIC FILM CF92 T 1800VH 1500PF H
⚠ C407	24082946	PLASTIC FILM CF92 T 1500VH 4700PF H
⚠ C408	24820123	PLASTIC FILM, 630V 0.012UF J
C410	24095900	CAPACITOR,PLASTIC FILM M 100V 3.3UFK
C412	24828473	PLASTIC FILM CQ92 T 200V 47000PF J

Location No.	Parts No.	Description
C413	24214221	CERAMIC DISK CK45 B 500V 220PF K
⚠ C414	24095782	PLASTIC FILM, 400V 0.47UF J
C415	24092484	CERAMIC DISK CK45B1 2KV 1500PF K (50A61/61A61)
C416	24828333	PLASTIC FILM CQ92 T 200V 33000PF J
C417	24679229	ELECTROLYTIC CE04Q 250V 2.2UF M 3A
C418	24679330	ELECTROLYTIC CE04Q 250V 33UF M 3A
C423	24640908	ELECTROLYTIC CE04H 160V 33UF M 3A LI
C426	24211222	CERAMIC DISC CK45B 2KV 2200PFK (50A61/61A61)
C427	24828473	PLASTIC FILM CQ92 T 200V 47000PF J
C429	24591102	PLASTIC FILM, 50V 1000PF J
C430	24567103	PLASTIC FILM CF92 M 50V 10000PF J
C431	24567103	PLASTIC FILM CF92 M 50V 10000PF J
C432	24567683	PLASTIC FILM CF92 M 50V 68000PF J
C433	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C434	24679479	ELECTROLYTIC CE04Q 250V 4.7UF M 3A
⚠ C447	24082944	PLASTIC FILM CF92 T 1500VH 3900PF H
⚠ C448	24820123	PLASTIC FILM, 630V 0.012UF J
C450	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C451	24109222	CERAMIC CHIP CK73B 50V 2200PF K
C452	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C481	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C482	24567223	PLASTIC FILM, 50V 22000PF J
C484	24501102	PLASTIC CAP T 50V 102J
C485	24503041	MT PLA CAP 63V 0.1UF J
C497	24567474	PLASTIC FILM, 50V 0.47UF J
C498	24669479	ELECTROLYTIC CE04Q 50V 4.7UF M 3A
C501	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C502	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C503	24665101	ELECTROLYTIC CE04Q 10V 100UF M 3A
C504	24109222	CERAMIC CHIP CK73B 50V 2200PF K
C505	24105120	CERAMIC CHIP CC73CH 50V 12PF J
C508	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C509	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C510	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C511	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C512	24206228	ELECTROLYTIC CE04WS 50V 0.22UF M 7L 3A
C513	24092730	CERAMIC CHIP CK73B
C514	24092730	CERAMIC CHIP CK73B
C515	24092730	CERAMIC CHIP CK73B
C517	24105010	CERAMIC CHIP CC73CK 50V 1PF C
C520	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C531	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C532	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C601	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C602	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C603	24669100	ELECTROLYTIC CE04Q 50V 10UF M 3A
C604	24669100	ELECTROLYTIC CE04Q 50V 10UF M 3A
C605	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C606	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C607	24503041	MT PLA CAP 63V 0.1UF J
C608	24503041	MT PLA CAP 63V 0.1UF J
C609	24669102	ELECTROLYTIC CE04Q 50V 1000UF M 3A
C610	24669102	ELECTROLYTIC CE04Q 50V 1000UF M 3A
C611	24667221	ELECTROLYTIC CE04Q 25V 220UF M 3A
C612	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A
C621	24206479	ELECTROLYTIC CE04WS 50V 4.7UF M 7L 3A (50A61/61A61)
C627	24206479	ELECTROLYTIC CE04WS 50V 4.7UF M 7L 3A (50A61/61A61)
C628	24206100	ELECTROLYTIC CE04WS 50V 10UF M 7L 3A (50A61/61A61)
C629	24206100	ELECTROLYTIC CE04WS 50V 10UF M 7L 3A (50A61/61A61)
C632	24203470	ELECTROLYTIC CE04WS 16V 47UF M 7L 3A (50A61/61A61)
C633	24567224	PLASTIC FILM, 50V 0.22UF J (50A61/61A61)
C635	24203220	ELECTROLYTIC CE04WS 16V 22UF M 7L 3A (50A61/61A61)
C636	24206479	ELECTROLYTIC CE04WS 50V 4.7UF M 7L 3A (50A61/61A61)
C637	24206100	ELECTROLYTIC CE04WS 50V 10UF M 7L 3A (50A61/61A61)
C638	24794101	ELECTROLYTIC CE04G 16V 100UF M (50A61/61A61)
C639	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C640	24109273	CERAMIC CHIP CC73B 25V 27NF K
C641	24109822	CERAMIC CHIP CK73B 50V 8200PF K
C642	24206100	ELECTROLYTIC CE04WS 50V 10UF M 7L 3A
C643	24206479	ELECTROLYTIC CE04WS 50V 4.7UF M 7L 3A
C644	24206339	ELECTROLYTIC CE04WS 50V 3.3UF M 7L 3A
C645	24109333	CERAMIC CHIP CK73B 25V 33000PFK
C646	24109153	CERAMIC CHIP CK73B 50V 15000PF K
C647	24092748	CERAMIC CHIP CK73B 16V 56NF K
C648	24109393	CERAMIC CHIP CC73B 25V 39NF K
C649	24109273	CERAMIC CHIP CC73B 25V 27NF K
C650	24109822	CERAMIC CHIP CK73B 50V 8200PF K
C651	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C652	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C653	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C654	24763101	ELECTROLYTIC CE04G 16V 100UF M
C661	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
C662	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
C663	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
C664	24794220	ELECTROLYTIC CE04G 16V 22UF M
C665	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C666	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
C667	24747478	CHEMICON 04H(S) 50V R47M
C680	24669471	ELECTROLYTIC CE04Q 50V 470UF M 3A
C681	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
C682	24092730	CERAMIC CHIP CK73B
C690	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C701	24105330	CERAMIC CHIP CC73CH 50V 33PF J
C702	24105330	CERAMIC CHIP CC73CH 50V 33PF J
C703	24105330	CERAMIC CHIP CC73CH 50V 33PF J
C704	24105330	CERAMIC CHIP CC73CH 50V 33PF J
C706	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C708	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C710	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C711	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
C712	24105330	CERAMIC CHIP CC73CH 50V 33PF J
C713	24105330	CERAMIC CHIP CC73CH 50V 33PF J
C714	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C715	24092730	CERAMIC CHIP CK73B
C716	24092730	CERAMIC CHIP CK73B
C717	24105470	CERAMIC CHIP CC73CH 50V 47PF J
C718	24105470	CERAMIC CHIP CC73CH 50V 47PF J
C719	24794101	ELECTROLYTIC CE04G 16V 100UF M
C720	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C721	24105070	CERAMIC CHIP CC73CH 50V 7PF D
C724	24100104	CERAMIC CHIP CK73F 25V 100000PF Z

Location No.	Parts No.	Description
C725	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C726	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C727	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C728	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C730	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C731	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C732	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C735	24092730	CERAMIC CHIP CK73B
C736	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C739	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C740	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C741	24794470	ELECTORLYTIC CE04G 16V 47UF M
C742	24794470	ELECTORLYTIC CE04G 16V 47UF M
C743	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C744	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C745	24794470	ELECTORLYTIC CE04G 16V 47UF M
C746	24794470	ELECTORLYTIC CE04G 16V 47UF M
C747	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C748	24100104	CERAMIC CHIP CK73F 25V 100000PF Z
C749	24794470	ELECTORLYTIC CE04G 16V 47UF M
C750	24794470	ELECTORLYTIC CE04G 16V 47UF M
C761	24105102	CERAMIC CHIP CC73CH 25V 1000PF J
C762	24590562	PLASTIC FILM CQ922M 50V 5600PF J
C763	24105391	CERAMIC CHIP CC73CH 50V 390pF J
C765	24105102	CERAMIC CHIP CC73CH 25V 1000PF J
C766	24590562	PLASTIC FILM CQ922M 50V 5600PF J
C767	24105391	CERAMIC CHIP CC73CH 50V 390pF J
C769	24105102	CERAMIC CHIP CC73CH 25V 1000PF J
C770	24590562	PLASTIC FILM CQ922M 50V 5600PF J
C771	24105391	CERAMIC CHIP CC73CH 50V 390pF J
C772	24761221	ELECTROLYTIC CE04G 6.3V 220UF M
C773	24105102	CERAMIC CHIP CC73CH 25V 1000PF J
C774	24590562	PLASTIC FILM CQ922M 50V 5600PF J
C775	24105391	CERAMIC CHIP CC73CH 50V 390pF J
C777	24105102	CERAMIC CHIP CC73CH 25V 1000PF J
C778	24590562	PLASTIC FILM CQ922M 50V 5600PF J
C779	24105391	CERAMIC CHIP CC73CH 50V 390pF J
C781	24105102	CERAMIC CHIP CC73CH 25V 1000PF J
C782	24590562	PLASTIC FILM CQ922M 50V 5600PF J
C783	24105391	CERAMIC CHIP CC73CH 50V 390pF J
C784	24105821	CERAMIC CHIP CC73CH 25V 820PF J
C785	24105821	CERAMIC CHIP CC73CH 25V 820PF J
C786	24105821	CERAMIC CHIP CC73CH 25V 820PF J
C787	24105821	CERAMIC CHIP CC73CH 25V 820PF J
C788	24105821	CERAMIC CHIP CC73CH 25V 820PF J
C789	24105821	CERAMIC CHIP CC73CH 25V 820PF J
C795	24761221	ELECTROLYTIC CE04G 6.3V 220UF M
C798	24763101	ELECTROLYTIC CE04G 16V 100UF M
C799	24763101	ELECTROLYTIC CE04G 16V 100UF M
C801	24082001	MT PLA CAP M AC125V 474M
C809	24086062	ELECTROLYTIC 692Q 200V 1000UF M 3F
C810	24086062	ELECTROLYTIC 692Q 200V 1000UF M 3F
C814	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C815	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C816	24073081	ELECTROLYTIC CE04P 50V 1.OUF M 3A
C817	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C830	24567334	PLASTIC FILM CF92 M 50V R33UF J
C831	24073037	ELECTROLYTIC CE04P 16V 47UF M 3A
C832	24567334	PLASTIC FILM CF92 M 50V R33UF J
C833	24073037	ELECTROLYTIC CE04P 16V 47UF M 3A
C840	24073058	ELECTROLYTIC CE04P 25V 2200UF M 3A
C842	24073001	ELECTROLYTIC CE04P 6.3V 100UF M 3A
C843	24567105	PLASTIC FILM CF92 M 50V 1UF J
C857	24073060	ELECTROLYTIC CE04P 25V 4700UF M 3A
C858	24073060	ELECTROLYTIC CE04P 25V 4700UF M 3A

Location No.	Parts No.	Description
C860	24214103	CERAMIC DISK CK45 B 500V 10000PF K
C863	24503041	MT PLA CAP 63V 0.1UF J
C864	24092474	CERAMIC DISK CK45B1 2KV 220PF K
C866	24567474	PLASTIC FILM, 50V 0.47UF J
C867	24591682	PLASTIC FILM, 50V 6800PF J
C868	24073052	ELECTROLYTIC CE04P 25V 47UF M 3A
C869	24678229	ELECTROLYTIC CE04Q 200 2.2UF M 3A
C870	24082890	PLASTIC FILM CQ92 T 800V 82000PF J
C871	24092484	CERAMIC DISK CK45B1 2KV 1500PF K
C872	24092474	CERAMIC DISK CK45B1 2KV 220PF K
C873	24567224	PLASTIC FILM, 50V 0.22UF J
C874	24212471	CERAMIC DISK CK45 B 50V 470PF K
C876	24567474	PLASTIC FILM, 50V 0.47UF J
C879	24073081	ELECTROLYTIC CE04P 50V 1.OUF M 3A
C883	24214222	CERAMIC DISK CK45 B 500V 2200PF K
C884	24086939	200V 330M22B 200V 330UF M22B
C890	24073096	ELECTROLYTIC CE04P 50V 3300UF M 3A
C891	24082229	PLASTIC FILM, 0.1MFD, 250V
C894	24073043	ELECTROLYTIC CE04P 16V 2200UF M 3A
C895	24073043	ELECTROLYTIC CE04P 16V 2200UF M 3A
C898	24092398	24092398A NI TOOITSU 25V 100000pF Z
C901	24211102	CERAMIC DISC CK45 B 2KV1000PF K
C902	24794100	ELECTROLYTIC CE04G 16V 10UF M
C904	24436471	CERAMIC DISC CC45 SL 50V470PF J
C908	24214472	CERAMIC DISK CK45 B 500V 4700PF K
C911	24211102	CERAMIC DISC CK45 B 2KV1000PF K
C912	24794100	ELECTROLYTIC CE04G 16V 10UF M
C914	24436681	CERAMIC DISC CC45SL 50V 680PF J
C915	24679330	ELECTROLYTIC CE04Q 250V 33UF M 3A
C916	24794101	ELECTROLYTIC CE04G 16V 100UF M
C918	24794221	ELECTROIYTIC CE04G 16V 220UF M
C921	24211102	CERAMIC DISC CK45 B 2KV1000PF K
C922	24794100	ELECTROLYTIC CE04G 16V 10UF M
C923	24794221	ELECTROIYTIC CE04G 16V 220UF M
C925	24794221	ELECTROIYTIC CE04G 16V 220UF M
C926	24436681	CERAMIC DISC CC45SL 50V 680PF J
C929	24794100	ELECTROLYTIC CE04G 16V 10UF M
C961	24666101	ELECTROLYTIC CE04Q 16V 100UF M 3A
C962	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
C964	24503041	MT PLA CAP 63V 0.1UF J
C7721	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C7722	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7724	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7725	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7726	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C7727	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7729	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C7730	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7732	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C7733	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7735	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7736	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7737	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C7738	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7740	24109102	CERAMIC CHIP CK73B 50V 1000PF K
C7741	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7744	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C7747	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7748	24503041	MT PLA CAP 63V 0.1UF J
C7749	24503041	MT PLA CAP 63V 0.1UF J
C7750	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7751	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7752	24503041	MT PLA CAP 63V 0.1UF J
C7753	24503041	MT PLA CAP 63V 0.1UF J
C7754	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A

Location No.	Parts No.	Description
C7755	24667101	ELECTROLYTIC CE04Q 25V 100UF M 3A
C7765	24669479	ELECTROLYTIC CE04Q 50V 4.7UF M 3A
C7766	24669479	ELECTROLYTIC CE04Q 50V 4.7UF M 3A
C7767	24667470	ELECTROLYTIC CE04Q 25V 47UF M 3A
C7769	24109103	CERAMIC CHIP CK73B 50V 10000PF K
C7774	24105101	CERAMIC CHIP CC73CH 50V 100PF J
C7776	24667470	ELECTROLYTIC CE04Q 25V 47UF M 3A
C7801	24669010	ELECTROLYTIC CE04Q 50V 1.0UF M 3A
CA10	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA13	24109221	CERAMIC CHIP CK73B 50V 220PF K
CA18	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A
CA20	24105181	CERAMIC CHIP CC73CH 50V 180PF J
CA21	24092743	CERAMIC CHIP CK73F 10V 470NF Z
CA22	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CA23	24105181	CERAMIC CHIP CC73CH 50V 180PF J
CA24	24092743	CERAMIC CHIP CK73F 10V 470NF Z
CA25	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
CA26	24092538	CERAMIC CHIP CK73F 10V 1UF Z
CA27	24092538	CERAMIC CHIP CK73F 10V 1UF Z
CA29	24109221	CERAMIC CHIP CK73B 50V 220PF K
CA30	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA34	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA45	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
CA49	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
CA50	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CA52	24109272	CERAMIC CHIP CK73B 50V 2700PF K
CA54	24092753	CERAMIC CHIP CK73B 10V 220NF K
CA59	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA60	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA61	24666220	ELECTROLYTIC CE04Q 16V 22UF M 3A
CA64	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CA68	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
CA69	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CA71	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA72	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
CA73	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
CA82	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CA85	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CB11	24794470	ELECTORLYTIC CE04G 16V 47UF M
CB13	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
CB14	24105101	CERAMIC CHIP CC73CH 50V 100PF J
CB15	24794100	ELECTROLYTIC CE04G 16V 10UF M
CB61	24105221	CERAMIC CHIP CC73CH 50V 220PF J
CB91	24666100	ELECTROLYTIC CE04Q 10V 10UF M 3A
CD02	24591562	PLASTIC FILM CQ921 M 50V 5600PF J
CD03	24591393	PLASTIC FILM CQ921 M 50V 0.039MF J
CD04	24591393	PLASTIC FILM CQ921 M 50V 0.039MF J
CD08	24794100	ELECTROLYTIC CE04G 16V 10UF M
CD10	24436101	CERAMIC DISC CC45 SL 50V100PF J
CD12	24436101	CERAMIC DISC CC45 SL 50V100PF J
CD13	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CD14	24797229	ELECTROLYTIC CE04G 50V 2.2UF M
CD15	24794470	ELECTORLYTIC CE04G 16V 47UF M
CD16	24797229	ELECTROLYTIC CE04G 50V 2.2UF M
CR12	24092730	CERAMIC CHIP CK73B
CR13	24092730	CERAMIC CHIP CK73B
CR14	24092730	CERAMIC CHIP CK73B
CR15	24092730	CERAMIC CHIP CK73B
CR16	24092730	CERAMIC CHIP CK73B
CR17	24092730	CERAMIC CHIP CK73B
CS03	24436221	CERAMIC DISC CC45 SL 50V 220PF J
CS04	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A

Location No.	Parts No.	Description
CS07	24436221	CERAMIC DISC CC45 SL 50V 220PF J
CS08	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
CS09	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS10	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS11	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
CS12	24436221	CERAMIC DISC CC45 SL 50V 220PF J
CS13	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
CS14	24436221	CERAMIC DISC CC45 SL 50V 220PF J
CS15	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS16	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS21	24436101	CERAMIC DISC CC45 SL 50V100PF J
CS22	24436101	CERAMIC DISC CC45 SL 50V100PF J
CS23	24206478	ELECTROLYTIC CE04WS 50V 0.47UF M 7L 3A
CS24	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS25	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS28	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS29	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS32	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CS33	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CS34	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS35	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS36	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS38	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS41	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS42	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CS43	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS44	24206229	ELECTROLYTIC CE04WS 50V 2.2UF M 7L 3A
CV01	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
CV03	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
CV04	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CV05	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CV08	24666471	ELECTROLYTIC CE04Q 16V 470UF M 3A
CV09	24666471	ELECTROLYTIC CE04Q 16V 470UF M 3A
CV13	24794100	ELECTROLYTIC CE04G 16V 10UF M
CV16	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
CV17	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CV21	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CV22	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CV27	24202221	ELECTROLYTIC CE04WS 10V 220UF M 7L 3A
CV28	24202221	ELECTROLYTIC CE04WS 10V 220UF M 7L 3A
CV29	24203101	ELECTROLYTIC CE04WS 16V 100UF M 7L 3A
CV31	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CV38	24203101	ELECTROLYTIC CE04WS 16V 100UF M 7L 3A
CV39	24212102	CERAMIC DISK CK45 B 50V 1000PF K
CV48	24763101	ELECTROLYTIC CE04G 16V 100UF M
CV64	24206100	ELECTROLYTIC CE04WS 50V 10UF M 7L 3A

Location No.	Parts No.	Description
CV65	24591122	PLASTIC FILM, 50V 1200PF J
CV66	24436561	CERAMIC DISC CC45 SL 50V560PF J
CV67	24591102	PLASTIC FILM, 50V 1000PF J
CV68	24206010	ELECTROLYTIC CE04WS 50V 1.0UF M 7L 3A
CW04	24591822	PLASTIC FILM, 50V 8200PF J (50A61/61A61)
CW05	24212103	CERAMIC DISK CK45 B 50V 10000PF K (50A61/61A61)
CW07	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A (50A61/61A61)
CW08	24794101	ELECTROLYTIC CE04G 16V 100UF M
CW09	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CW12	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A (50A61/61A61)
CW13	24709100	ELECTROLYTIC CE04G 200V 10UF M (50A61/61A61)
CW14	24436101	CERAMIC DISC CC45 SL 50V100PF J (50A61/61A61)
CW15	24214472	CERAMIC DISK CK45 B 500V 4700PF K (50A61/61A61)
CW16	24436101	CERAMIC DISC CC45 SL 50V100PF J (50A61/61A61)
CW17	24214472	CERAMIC DISK CK45 B 500V 4700PF K (50A61/61A61)
CW18	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A (50A61/61A61)
CW19	24435560	PCERA CAP SL 500V 560J (50A61/61A61)
CW20	24709100	ELECTROLYTIC CE04G 200V 10UF M (50A61/61A61)
CW21	24666470	ELECTORLYTOC CE04Q 16V 47UF M 3A (50A61/61A61)
CW22	24436561	CERAMIC DISC CC45 SL 50V560PF J (50A61/61A61)
CW26	24212102	CERAMIC DISK CK45 B 50V 1000PF K (50A61/61A61)
CW52	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CW53	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CW54	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CW58	24794101	ELECTROLYTIC CE04G 16V 100UF M
CY01	24665471	ELECTROLYTIC CE04Q 10V 470UF M 3A
CY40	24794100	ELECTROLYTIC CE04G 16V 10UF M
CZ01	24797478	CE04G1HR47M (50A11)
CZ02	24794101	ELECTROLYTIC CE04G 16V 100UF M (50A11)
CZ03	24092743	CERAMIC CHIP CK73F 10V 470NF Z (50A61/61A61)
CZ03	24092398	24092398A NI TOOITSU 25V 100000pF Z (50A11)
CZ04	24476103	CG141Y1C103N (50A11)
CZ05	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ05	24476103	CG141Y1C103N (50A11)
CZ06	24476103	CG141Y1C103N (50A11)
CZ07	24092730	CERAMIC CHIP CK73B (50A61/61A61)
CZ07	24794101	ELECTROLYTIC CE04G 16V 100UF M (50A11)
CZ09	24105220	CERAMIC CHIP CC73CH 50V 22PF J (50A61/61A61)
CZ09	24567103	PLASTIC FILM CF92 M 50V 10000PF J (50A11)
CZ10	24105100	CERAMIC CHIP CC73CH 50V 10PF D (50A61/61A61)
CZ10	24436151	CC45SL1H151J (50A11)
CZ11	24105220	CERAMIC CHIP CC73CH 50V 22PF J (50A61/61A61)

Location No.	Parts No.	Description
CZ11	24567103	PLASTIC FILM CF92 M 50V 10000PF J (50A11)
CZ12	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ12	24474181	CK141B1H181K (50A11)
CZ13	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ13	24476103	CG141Y1C103N (50A11)
CZ14	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A (50A61/61A61)
CZ14	24476103	CG141Y1C103N (50A11)
CZ15	24473560	CC141SL1H560 (50A11)
CZ16	24473470	CC141SL1H470 (50A11)
CZ17	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ18	24092398	24092398A NI TOOITSU 25V 100000pF Z (50A11)
CZ19	24105181	CERAMIC CHIP CC73CH 50V 180PF J (50A61/61A61)
CZ19	24794330	CE04G1C330M (50A11)
CZ20	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ21	24109122	CERAMIC CHIP CC73B 50V 1200PF K (50A61/61A61)
CZ22	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A (50A61/61A61)
CZ23	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ23	24092398	24092398A NI TOOITSU 25V 100000pF Z (50A11)
CZ24	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ25	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A (50A61/61A61)
CZ26	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ28	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ28	24436220	CC45SL1H220J (50A11)
CZ29	24109103	CERAMIC CHIP CK73B 50V 10000PF K (50A61/61A61)
CZ29	24436120	CC45SL1H120J (50A11)
CZ30	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A (50A61/61A61)
CZ30	24436270	CC45SL1H270J (50A11)
CZ31	24092730	CERAMIC CHIP CK73B (50A61/61A61)
CZ32	24105150	CERAMIC CHIP CC73CH 50V 15PF J (50A61/61A61)
CZ33	24105390	CERAMIC CHIP CC73CH 50V 39PF J (50A61/61A61)
CZ34	24105150	CERAMIC CHIP CC73CH 50V 15PF J (50A61/61A61)
CZ35	24105390	CERAMIC CHIP CC73CH 50V 39PF J (50A61/61A61)
CZ37	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A (50A61/61A61)
CZ38	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A (50A61/61A61)
CZ41	24105470	CERAMIC CHIP CC73CH 50V 47PF J (50A61/61A61)
CZ42	24105470	CERAMIC CHIP CC73CH 50V 47PF J (50A61/61A61)
CZ45	24105100	CERAMIC CHIP CC73CH 50V 10PF D (50A61/61A61)

Location No.	Parts No.	Description
RESISTORS		
R101	24383223	OXID METAL FILM, 2W 22K OHM J
R150	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R151	24872562	CHIP, METAL FILM, 1/16W 5.6K OHM J
R152	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R201	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R202	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R204	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R205	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R206	24872102	CHIP, METAL FILM, 1/16W 1K OHM J (50A61/61A61)
R207	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R208	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R209	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R212	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R213	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
R214	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R216	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R223	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R241	24367333	CARBON FILM, 1/6W 33K OHM G
R242	24367333	CARBON FILM, 1/6W 33K OHM G
R244	24367333	CARBON FILM, 1/6W 33K OHM G
R245	24366474	CARBON FILM, 1/6W 470K OHM J
R266	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R267	24872821	CHIP, METAL FILM, 1/16W 820 OHM J
R268	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R269	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R270	24872682	CHIP, METAL FILM, 1/16W 6.8K OHM J
R301	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R302	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R303	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R304	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R305	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R307	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
R308	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
R310	24872562	CHIP, METAL FILM, 1/16W 5.6K OHM J
R311	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R312	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R313	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R314	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R315	24872821	CHIP, METAL FILM, 1/16W 820 OHM J
R316	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R317	24872824	METAL FILM CHIP 1/16W 820K J
R318	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R319	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R320	24000249	METAL FILM, 1/4W 47K OHM F
R321	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R322	24000529	METAL FILM 1/4W 6.8K F
R323	24000639	METAL FILM, 1/4W 22K OHM F
R324	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R325	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R326	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R327	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R328	24872912	METAL FILM CHIP 1/16W 9R1K J
R329	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R330	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R331	24019119	METAL FILM, 1/6W 30K OHM J
R332	24000525	METAL FILM, 1/4W 4.7K OHM F
R333	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R334	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R335	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R336	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R337	24321129	OXIDE METAL FILM, 1/2W 1.2 OHM J
R338	24872183	CHIP, METAL FILM, 1/16W 18K OHM J (50A61/61A61)
R339	24872393	CHIP, METAL FILM, 1/16W 39K OHM J (50A61/61A61)
R340	24872824	METAL FILM CHIP 1/16W 820K J (50A61/61A61)
R341	24872273	CHIP, METAL FILM, 1/16W 27K OHM J (50A61/61A61)
R342	24872153	CHIP, METAL FILM, 1/16W 15K OHM J (50A61/61A61)
R343	24872102	CHIP, METAL FILM, 1/16W 1K OHM J (50A61/61A61)
R344	24382271	OXIDE METAL FILM, 1W 270 OHM J
R345	24322828	OXIDE METAL FILM, 1W 0.82 OHM J
R346	24382391	OXIDE METAL FILM, 1W 390 OHM J
R347	24872103	CHIP, METAL FILM, 1/16W 10K OHM J (50A61/61A61)
R348	24872103	CHIP, METAL FILM, 1/16W 10K OHM J (50A61/61A61)
R349	24872392	METAL FILM CHIP 1/16W 3R9K J (50A61/61A61)
R350	24872822	CHIP, METAL FILM, 1/16W 8.2K OHM J (50A61/61A61)
R351	24366472	CARBON FILM, 1/6W 4.7K OHM J (50A61/61A61)
R360	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R362	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R363	24872682	CHIP, METAL FILM, 1/16W 6.8K OHM J
R364	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R370	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R371	24872823	CHIP, METAL FILM, 1/16W 82K OHM J
R372	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R373	24872823	CHIP, METAL FILM, 1/16W 82K OHM J
R374	24872104	CHIP, METAL FILM, 1/16W 100K OHM J
R375	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R376	24872333	CHIP, METAL FILM, 1/16W 33K OHM J
R378	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R401	24872391	CHIP, METAL FILM, 1/16W 390 OHM J
R401	24366102	CARBON FILM, 1/6W 1K OHM J
R402	24366102	CARBON FILM, 1/6W 1K OHM J
R403	24872302	CHIP, METAL FILM, 1/16W 3K OHM J
R403	24553272	OXIDE METAL FILM, 1W 2.7K OHM J
R404	24384682	METAL OXIDE FILM B 3W 6.8K J
R405	24552330	0XIDE RES B 1/2W 330J
R406	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R406	24382222	OXIDE METAL FILM, 1W 2.2K OHM J
R407	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R407	24552100	OXIDE METAL FILM, 1/2W 10 OHM J
R408	24366101	CARBON FILM, 1/6W 100 OHM J
R409	24555220	OXIDE RES B 3W 220J
R410	24555220	OXIDE RES B 3W 220J
R411	24383270	OXIDE FILM 2W 27. J
R412	24366223	CARBON FILM, 1/6W 22K OHM J
R413	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R414	24366100	CARBON FILM, 1/6W 10 OHM J
R415	24383102	OXIDE RES B 2W 102J
R418	24019292	FUSIBLE 1/2W 68 J
R419	24942102	CARBON COMPOSITION, 1/2W 1K OHM J
R420	24382473	OXIDE METAL FILM, 1W 47K OHM J
R421	24382104	OXIDE METAL FILM, 1W 100K OHM J (50A61/61A61)
R423	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
R424	24338398	OXIDE METAL FILM, 1W 0.39 OHM J
R428	24310109	METAL FILM, 1/2W 1 OHM J
R431	24383102	OXIDE RES B 2W 102J (50A61/61A61)

Location No.	Parts No.	Description
R432	24552101	OXIDE METAL FILM, 1/2W 100 OHM J
R432	24376274	RESISTOR CARBON B 1/2W 274J (50A61/61A61)
R433	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R433	24376274	RESISTOR CARBON B 1/2W 274J (50A61/61A61)
R434	24376274	RESISTOR CARBON B 1/2W 274J (50A61/61A61)
R435	24322228	OXIDE METAL FILM, 1W 0.22 OHM J
R436	24382561	OXIDE METAL FILM, 1W 560 OHM J
R437	24382561	OXIDE METAL FILM, 1W 560 OHM J
R438	24382561	OXIDE METAL FILM, 1W 560 OHM J
R439	24366103	CARBON FILM, 1/6W 10K OHM J
R440	24366103	CARBON FILM, 1/6W 10K OHM J
R441	24366474	CARBON FILM, 1/6W 470K OHM J
R442	24366103	CARBON FILM, 1/6W 10K OHM J
R443	24366562	CARBON FILM, 1/6W 5.6K OHM J
R444	24366103	CARBON FILM, 1/6W 10K OHM J
R445	24366472	CARBON FILM, 1/6W 4.7K OHM J
R446	24366103	CARBON FILM, 1/6W 10K OHM J
R447	24366681	CARBON FILM, 1/6W 680 OHM J
R448	24366334	CARBON FILM, 1/6W 330K OHM J
R449	24366101	CARBON FILM, 1/6W 100 OHM J
R451	24872184	METAL FILM CHIP 1/16W 180K J
R460	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R468	24366103	CARBON FILM, 1/6W 10K OHM J
R469	24366222	CARBON FILM, 1/6W 2.2K OHM J
R470	24338568	METAL FILM, 1W 0.56 OHM J
R471	24552271	OXIDE METAL FILM, 1/2W 270 OHM J
R472	24552151	0XIDE RES B 1/2W 151J
R473	24327223	METAL RES K 1/4W 223F
R474	24327223	METAL RES K 1/4W 223F
R475	24366102	CARBON FILM, 1/6W 1K OHM J
R479	24366393	CARBON FILM, 1/6W 39K OHM J
R480	24366103	CARBON FILM, 1/6W 10K OHM J
R481	24366102	CARBON FILM, 1/6W 1K OHM J
R482	24366331	CARBON FILM, 1/6W 330 OHM J
R483	24366102	CARBON FILM, 1/6W 1K OHM J
R484	24366474	CARBON FILM, 1/6W 470K OHM J
R485	24366103	CARBON FILM, 1/6W 10K OHM J
R486	24366103	CARBON FILM, 1/6W 10K OHM J
⚠ R487	24000366	METAL FILM 1/4W 2.2K F
⚠ R488	24000365	METAL FILM 1/4W 2K F
R489	24366222	CARBON FILM, 1/6W 2.2K OHM J
R490	24000639	METAL FILM, 1/4W 22K OHM F
R492	24366392	CARBON FILM, 1/6W 3.9K OHM J
R493	24366224	CARBON FILM, 1/6W 220K OHM J
⚠ R494	24000364	METAL FILM 1/4W 1.8K F
R495	24366473	CARBON FILM, 1/6W 47K OHM J
R496	24366223	CARBON FILM, 1/6W 22K OHM J
R497	24366471	CARBON F1LM, 1/6W 470 OHM J
R498	24366272	CARBON FILM, 1/6W 2.7K OHM J
R499	24366683	CARBON FILM, 1/6W 68K OHM J
R501	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R502	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R503	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R504	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R505	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
R506	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R508	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R508	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J (50A11)
R509	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
R510	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R512	24872101	CHIP, METAL FILM, 1/16W 100 OHM J

Location No.	Parts No.	Description
R514	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
R515	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R530	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R531	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R532	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R533	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R534	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R535	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R536	24872272	CHIP, METAL FILM, 1/16W 2.7K OHM J
R537	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R538	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R601	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R602	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R603	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R604	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R609	24872229	METAL FILM CHIP 1/16W 2R2 J
R610	24872229	METAL FILM CHIP 1/16W 2R2 J
R611	24872392	METAL FILM CHIP 1/16W 3R9K J
R612	24872392	METAL FILM CHIP 1/16W 3R9K J
R613	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R621	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R622	24872105	CHIP, METAL FILM, 1/16W 1M OHM J (50A61/61A61)
R623	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R624	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R625	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R626	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R627	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
R633	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R634	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R635	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R636	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R637	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R638	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R639	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R640	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R641	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R642	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R643	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R661	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R662	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R663	24872123	CHIP, METAL FILM, 1/16W 12K OHM J
R665	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R666	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R667	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R668	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R669	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R671	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R672	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R673	24872123	CHIP, METAL FILM, 1/16W 12K OHM J
R674	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R675	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R682	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R683	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R684	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R687	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R689	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R690	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R701	24872221	CHIP, METAL FILM, 1/16W 220 OHM J

Location No.	Parts No.	Description
R702	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R703	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R704	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R707	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R708	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R709	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R710	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R711	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R712	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R713	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R714	24872100	CHIP, METAL FILM, 1/16W 10 OHM J
R716	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R718	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R720	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R721	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R722	24872561	CHIP, METAL FILM, 1/16W 560 OHM J
R723	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R724	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R725	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R727	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
R728	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R729	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R730	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R731	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R732	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R733	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
R734	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R735	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R736	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R737	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J
R738	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R739	24872362	METAL FILM CHIP 1/16W 3R6K J
R740	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R741	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R742	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J
R743	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R744	24872362	METAL FILM CHIP 1/16W 3R6K J
R745	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R746	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R747	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J
R748	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R749	24872362	METAL FILM CHIP 1/16W 3R6K J
R750	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R751	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R752	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J
R753	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R754	24872362	METAL FILM CHIP 1/16W 3R6K J
R755	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R756	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R757	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J
R758	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R759	24872362	METAL FILM CHIP 1/16W 3R6K J
R760	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R761	24872911	CHIP, METAL FILM, 1/16W 910 OHM J
R762	24872152	CHIP, METAL FILM, 1/16W 1.5K OHM J
R763	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R764	24872362	METAL FILM CHIP 1/16W 3R6K J
R778	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R779	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R780	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R781	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R782	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R783	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
R786	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R787	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J

Location No.	Parts No.	Description
R810	24045007	CEMENT RES G 20W 1R2J
R815	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R816	24366103	CARBON FILM, 1/6W 10K OHM J
R817	24366102	CARBON FILM, 1/6W 1K OHM J
R820	24327153	METAL RES K 1/4W 153F
R821	24327153	METAL RES K 1/4W 153F
R822	24327153	METAL RES K 1/4W 153F
R823	24327123	METAL FILM, 1/4W 12K OHM F
R824	24366102	CARBON FILM, 1/6W 1K OHM J
R842	24366222	CARBON FILM, 1/6W 2.2K OHM J
R843	24366103	CARBON FILM, 1/6W 10K OHM J
R844	24366473	CARBON FILM, 1/6W 47K OHM J
R861	24383473	OXIDE METAL FILM, 2W 47K OHM J
R862	24381330	OXIDE FILM 1/2W 33 J
R864	24552102	OXIDE METAL FILM, 1/2W 1K OHM J
R865	24552470	OXIDE METAL FILM, 1/2W 47 OHM J
R867	24366563	CARBON FILM, 1/6W 56K OHM J
R868	24552560	OXIDE METAL FILM, 1/2W 56 OHM J
R870	24381121	OXIDE FILM 1/2W 120 J
R871	24382680	OXIDE FILM 1W 68 J
R872	24377224	CARBON FILM, 1W 220K OHM J
R883	24381683	OXIDE METAL FILM, 1/2W 68K OHM J
R884	24366102	CARBON FILM, 1/6W 1K OHM J
R891	24366152	CARBON FILM, 1/6W 1.5K OHM J
R898	24002000	CARBON COMPOSITION GE 1/2W 3R9M K
R900	24000906	FUSIBLE, 2W 2.4 OHM J
R901	24366101	CARBON FILM, 1/6W 100 OHM J
R903	24552561	OXIDE METAL FILM, 1/2W 560 OHM J
R904	24366102	CARBON FILM, 1/6W 1K OHM J
R905	24366390	CARBON FILM, 1/6W 39 OHM J
R906	24366471	CARBON F1LM, 1/6W 470 OHM J
R908	24366390	CARBON FILM, 1/6W 39 OHM J
R909	24366101	CARBON FILM, 1/6W 100 OHM J
R911	24366101	CARBON FILM, 1/6W 100 OHM J
R913	24552561	OXIDE METAL FILM, 1/2W 560 OHM J
R914	24366102	CARBON FILM, 1/6W 1K OHM J
R915	24366750	CARBON FILM, 1/6W 75 OHM J
R916	24366471	CARBON F1LM, 1/6W 470 OHM J
R918	24366390	CARBON FILM, 1/6W 39 OHM J
R919	24366391	CARBON FILM, 1/6W 390 OHM J
R921	24366101	CARBON FILM, 1/6W 100 OHM J
R923	24552561	OXIDE METAL FILM, 1/2W 560 OHM J
R924	24366102	CARBON FILM, 1/6W 1K OHM J
R925	24366101	CARBON FILM, 1/6W 100 OHM J
R926	24366471	CARBON F1LM, 1/6W 470 OHM J
R927	24366271	CARBON FILM, 1/6W 270 OHM J
R928	24366390	CARBON FILM, 1/6W 39 OHM J
R931	24555153	OXIDE METAL FILM, 3W 15K OHM J
R932	24555153	OXIDE METAL FILM, 3W 15K OHM J
R940	24366821	CARBON FILM, 1/6W 820 OHM J
R941	24555153	OXIDE METAL FILM, 3W 15K OHM J
R942	24555153	OXIDE METAL FILM, 3W 15K OHM J
R946	24366221	CARBON FILM, 1/6W 220 OHM J
R949	24366390	CARBON FILM, 1/6W 39 OHM J
R950	24366101	CARBON FILM, 1/6W 100 OHM J
R951	24555153	OXIDE METAL FILM, 3W 15K OHM J
R952	24555153	OXIDE METAL FILM, 3W 15K OHM J
R953	24366390	CARBON FILM, 1/6W 39 OHM J
R954	24366102	CARBON FILM, 1/6W 1K OHM J
R955	24366151	CARBON FILM, 1/6W 150 OHM J
R956	24366271	CARBON FILM, 1/6W 270 OHM J
R958	24366821	CARBON FILM, 1/6W 820 OHM J
R959	24366470	CARBON FILM, 1/6W 47 OHM J
R960	24366560	CARBON FILM, 1/6W 56 OHM J
R961	24366821	CARBON FILM, 1/6W 820 OHM J

Location No.	Parts No.	Description
R962	24366471	CARBON F1LM, 1/6W 470 OHM J
R963	24366222	CARBON FILM, 1/6W 2.2K OHM J
R964	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R965	24366471	CARBON F1LM, 1/6W 470 OHM J
R966	24366821	CARBON FILM, 1/6W 820 OHM J
R967	24366681	CARBON FILM, 1/6W 680 OHM J
R968	24366680	CARBON FILM, 1/6W 68 OHM J
R969	24366103	CARBON FILM, 1/6W 10K OHM J
R970	24366222	CARBON FILM, 1/6W 2.2K OHM J
R971	24367152	CARBON RES G 1/6W 152G
R972	24367471	CARBON FILM, 1/6W 470 OHM G
R973	24367681	CARBON FILM, 1/6W 680 OHM G
R974	24367681	CARBON FILM, 1/6W 680 OHM G
R975	24366272	CARBON FILM, 1/6W 2.7K OHM J
R976	24367562	CARBON FILM, 1/6W 5.6K OHM G
R977	24367392	CARBON,FILM G SB 1/6W 3.9K G
R978	24367681	CARBON FILM, 1/6W 680 OHM G
R980	24366272	CARBON FILM, 1/6W 2.7K OHM J
R981	24366103	CARBON FILM, 1/6W 10K OHM J
R982	24366562	CARBON FILM, 1/6W 5.6K OHM J
R983	24366562	CARBON FILM, 1/6W 5.6K OHM J
R984	24366682	CARBON FILM, 1/6W 6.8K OHM J
R985	24366122	CARBON FILM, 1/6W 1.2K OHM J
R986	24366271	CARBON FILM, 1/6W 270 OHM J
R987	24366822	CARBON FILM, 1/6W 8.2K OHM J
R988	24366103	CARBON FILM, 1/6W 10K OHM J
R989	24366103	CARBON FILM, 1/6W 10K OHM J
R990	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R991	24366682	CARBON FILM, 1/6W 6.8K OHM J
R992	24366271	CARBON FILM, 1/6W 270 OHM J
R993	24366471	CARBON F1LM, 1/6W 470 OHM J
R994	24366392	CARBON FILM, 1/6W 3.9K OHM J
R995	24366102	CARBON FILM, 1/6W 1K OHM J
R996	24366103	CARBON FILM, 1/6W 10K OHM J
R997	24366272	CARBON FILM, 1/6W 2.7K OHM J
R998	24366102	CARBON FILM, 1/6W 1K OHM J
R999	24366102	CARBON FILM, 1/6W 1K OHM J
R7707	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7708	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7710	24555680	OXIDE METAL FILM, 3W 68 OHM J
R7711	24323229	OXIDE METAL FILM, 2W 2.2 OHM J
R7712	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7713	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7715	24555680	OXIDE METAL FILM, 3W 68 OHM J
R7716	24323229	OXIDE METAL FILM, 2W 2.2 OHM J
R7717	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7718	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7720	24555680	OXIDE METAL FILM, 3W 68 OHM J
R7721	24323229	OXIDE METAL FILM, 2W 2.2 OHM J
R7722	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7723	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7725	24555680	OXIDE METAL FILM, 3W 68 OHM J
R7726	24323229	OXIDE METAL FILM, 2W 2.2 OHM J
R7727	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7728	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7730	24555680	OXIDE METAL FILM, 3W 68 OHM J
R7731	24323229	OXIDE METAL FILM, 2W 2.2 OHM J
R7732	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7733	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7735	24555680	OXIDE METAL FILM, 3W 68 OHM J
R7736	24323229	OXIDE METAL FILM, 2W 2.2 OHM J
R7766	24872223	CHIP, METAL FILM, 1/16W 22K OHM J
R7767	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
R7773	24872224	CHIP, METAL FILM, 1/16W 220K OHM J
R7775	24872273	CHIP, METAL FILM, 1/16W 27K OHM J

Location No.	Parts No.	Description
R7776	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7777	24872273	CHIP, METAL FILM, 1/16W 27K OHM J
R7778	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7779	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R7780	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
R7781	24872333	CHIP, METAL FILM, 1/16W 33K OHM J
R7788	24382221	OXIDE FILM 1W 220 J
R7795	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R7796	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R7797	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
R7798	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R7801	24872221	CHIP, METAL FILM, 1/16W 220 OHM J
R7802	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
R7803	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R7804	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R7805	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
R7806	24872392	METAL FILM CHIP 1/16W 3R9K J
R7807	24872224	CHIP, METAL FILM, 1/16W 220K OHM J
R7808	24872333	CHIP, METAL FILM, 1/16W 33K OHM J (50A61)
R7808	24872223	CHIP, METAL FILM, 1/16W 22K OHM J (61A61)
R7809	24872333	CHIP, METAL FILM, 1/16W 33K OHM J (50A61)
R7809	24872153	CHIP, METAL FILM, 1/16W 15K OHM J (61A61)
RA01	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA02	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA03	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA04	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA05	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA06	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA07	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA09	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RA10	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RA11	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA12	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA13	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA15	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA16	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA17	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA18	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RA26	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA27	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA29	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA30	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA31	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA33	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA34	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA35	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA39	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA46	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RA47	24872182	CHIP, METAL FILM, 1/16W 1.8K OHM J
RA48	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA49	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RA50	24872682	CHIP, METAL FILM, 1/16W 6.8K OHM J
RA51	24872151	CHIP, METAL FILM, 1/16W 150 OHM J
RA52	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RA54	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RA55	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA56	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RA59	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA60	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA72	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RA73	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J

Location No.	Parts No.	Description
RA74	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
RA75	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
RA76	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RA77	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RA78	24872333	CHIP, METAL FILM, 1/16W 33K OHM J
RA79	24872333	CHIP, METAL FILM, 1/16W 33K OHM J
RA80	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA82	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA85	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RA91	24366683	CARBON FILM, 1/6W 68K OHM J (50A61/61A61)
RA92	24366223	CARBON FILM, 1/6W 22K OHM J (50A61/61A61)
RA93	24366103	CARBON FILM, 1/6W 10K OHM J (50A61/61A61)
RA96	24366822	CARBON FILM, 1/6W 8.2K OHM J (50A61/61A61)
RA97	24366153	CARBON FILM, 1/6W 15K OHM J (50A61/61A61)
RA98	24366273	CARBON FILM, 1/6W 27K OHM J (50A61/61A61)
RA99	24366823	CARBON FILM, 1/6W 82K OHM J (50A61/61A61)
RB03	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RB14	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
RB15	24872153	CHIP, METAL FILM, 1/16W 15K OHM J
RB15	24366471	CARBON F1LM, 1/6W 470 OHM J
RB16	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RB17	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RB19	24366470	CARBON FILM, 1/6W 47 OHM J
RB21	24366271	CARBON FILM, 1/6W 270 OHM J (50A61/61A61)
RB24	24366103	CARBON FILM, 1/6W 10K OHM J (50A61/61A61)
RB30	24366103	CARBON FILM, 1/6W 10K OHM J
RB41	24366273	CARBON FILM, 1/6W 27K OHM J
RB41	24366681	CARBON FILM, 1/6W 680 OHM J
RB42	24366153	CARBON FILM, 1/6W 15K OHM J
RB61	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RB62	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RB63	24872472	CHIP, METAL FILM, 1/16W 4.7K OHM J
RB81	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
RB82	24872123	CHIP, METAL FILM, 1/16W 12K OHM J
RB83	24872123	CHIP, METAL FILM, 1/16W 12K OHM J
RB84	24872562	CHIP, METAL FILM, 1/16W 5.6K OHM J
RB90	24872392	METAL FILM CHIP 1/16W 3R9K J
RB91	24872473	CHIP, METAL FILM, 1/16W 47K OHM J
RB92	24872271	CHIP, METAL FILM, 1/16W 270 OHM J
RB93	24872271	CHIP, METAL FILM, 1/16W 270 OHM J
RB94	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RB95	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RB96	24872273	CHIP, METAL FILM, 1/16W 27K OHM J
RB97	24872273	CHIP, METAL FILM, 1/16W 27K OHM J
RB98	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RD09	24366101	CARBON FILM, 1/6W 100 OHM J
RD11	24366101	CARBON FILM, 1/6W 100 OHM J
RD13	24366222	CARBON FILM, 1/6W 2.2K OHM J
RD14	24366103	CARBON FILM, 1/6W 10K OHM J
RD16	24366103	CARBON FILM, 1/6W 10K OHM J
RR08	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RR09	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RR10	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RR12	24872151	CHIP, METAL FILM, 1/16W 150 OHM J
RR13	24872151	CHIP, METAL FILM, 1/16W 150 OHM J
RR14	24872151	CHIP, METAL FILM, 1/16W 150 OHM J

Location No.	Parts No.	Description
RR15	24872151	CHIP, METAL FILM, 1/16W 150 OHM J
RR16	24872151	CHIP, METAL FILM, 1/16W 150 OHM J
RR17	24872151	CHIP, METAL FILM, 1/16W 150 OHM J
RR18	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RR40	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RR42	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RR44	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RR52	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RR53	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RR54	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RR55	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RR56	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RR57	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RR58	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RR59	24872104	CHIP, METAL FILM, 1/16W 100K OHM J
RR92	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RR99	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RS02	24366472	CARBON FILM, 1/6W 4.7K OHM J
RS04	24366102	CARBON FILM, 1/6W 1K OHM J
RS06	24366102	CARBON FILM, 1/6W 1K OHM J
RS07	24366103	CARBON FILM, 1/6W 10K OHM J
RS08	24366103	CARBON FILM, 1/6W 10K OHM J
RS09	24366102	CARBON FILM, 1/6W 1K OHM J
RS10	24366102	CARBON FILM, 1/6W 1K OHM J
RS12	24366103	CARBON FILM, 1/6W 10K OHM J
RS21	24366104	CARBON FILM, 1/6W 100K OHM J
RS22	24366104	CARBON FILM, 1/6W 100K OHM J
RS25	24366223	CARBON FILM, 1/6W 22K OHM J
RS26	24366223	CARBON FILM, 1/6W 22K OHM J
RS27	24366471	CARBON F1LM, 1/6W 470 OHM J
RS28	24366471	CARBON F1LM, 1/6W 470 OHM J
RS29	24366104	CARBON FILM, 1/6W 100K OHM J
RS30	24366104	CARBON FILM, 1/6W 100K OHM J
RS31	24366103	CARBON FILM, 1/6W 10K OHM J
RS32	24366104	CARBON FILM, 1/6W 100K OHM J
RS33	24366222	CARBON FILM, 1/6W 2.2K OHM J
RS34	24366222	CARBON FILM, 1/6W 2.2K OHM J
RS35	24366103	CARBON FILM, 1/6W 10K OHM J
RS36	24366103	CARBON FILM, 1/6W 10K OHM J
RS37	24366101	CARBON FILM, 1/6W 100 OHM J
RS40	24366101	CARBON FILM, 1/6W 100 OHM J
RS42	24366101	CARBON FILM, 1/6W 100 OHM J
RS48	24366101	CARBON FILM, 1/6W 100 OHM J
RS49	24366103	CARBON FILM, 1/6W 10K OHM J
RS51	24366103	CARBON FILM, 1/6W 10K OHM J
RS52	24366103	CARBON FILM, 1/6W 10K OHM J
RV01	24366472	CARBON FILM, 1/6W 4.7K OHM J (50A61/61A61)
RV03	24366101	CARBON FILM, 1/6W 100 OHM J
RV04	24366101	CARBON FILM, 1/6W 100 OHM J
RV10	24366100	CARBON FILM, 1/6W 10 OHM J
RV11	24366100	CARBON FILM, 1/6W 10 OHM J
RV12	24366100	CARBON FILM, 1/6W 10 OHM J
RV14	24366100	CARBON FILM, 1/6W 10 OHM J
RV15	24366222	CARBON FILM, 1/6W 2.2K OHM J
RV20	24366750	CARBON FILM, 1/6W 75 OHM J
RV21	24366750	CARBON FILM, 1/6W 75 OHM J
RV22	24366750	CARBON FILM, 1/6W 75 OHM J
RV23	24366332	CARBON F1LM, 1/6W 3.3K OHM J
RV24	24366750	CARBON FILM, 1/6W 75 OHM J
RV25	24366750	CARBON FILM, 1/6W 75 OHM J
RV26	24366750	CARBON FILM, 1/6W 75 OHM J
RV28	24366472	CARBON FILM, 1/6W 4.7K OHM J
RV31	24366332	CARBON F1LM, 1/6W 3.3K OHM J
RV32	24366750	CARBON FILM, 1/6W 75 OHM J

Location No.	Parts No.	Description
RV33	24366680	CARBON FILM, 1/6W 68 OHM J
RV34	24366750	CARBON FILM, 1/6W 75 OHM J
RV50	24872222	CHIP, METAL FILM, 1/16W 2.2K OHM J
RV63	24366102	CARBON FILM, 1/6W 1K OHM J
RV67	24366750	CARBON FILM, 1/6W 75 OHM J
RV74	24366680	CARBON FILM, 1/6W 68 OHM J
RV83	24366332	CARBON F1LM, 1/6W 3.3K OHM J
RV84	24366750	CARBON FILM, 1/6W 75 OHM J
RV85	24552181	OXIDE METAL FILM, 1/2W 180 OHM J
RV89	24366750	CARBON FILM, 1/6W 75 OHM J
RV90	24366103	CARBON FILM, 1/6W 10K OHM J
RV91	24366302	CARBON FILM, 1/6W 3K OHM J
RV92	24366103	CARBON FILM, 1/6W 10K OHM J
RV93	24366103	CARBON FILM, 1/6W 10K OHM J
RV94	24366392	CARBON FILM, 1/6W 3.9K OHM J
RV95	24366123	CARBON FILM, 1/6W 12K OHM J
RV96	24366274	CARBON,FILM G SB 1/6W 270K J
RV97	24366331	CARBON FILM, 1/6W 330 OHM J
RV98	24366472	CARBON FILM, 1/6W 4.7K OHM J
RW02	24366821	CARBON FILM, 1/6W 820 OHM J (50A61/61A61)
RW09	24366563	CARBON FILM, 1/6W 56K OHM J (50A61/61A61)
RW10	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RW13	24366393	CARBON FILM, 1/6W 39K OHM J (50A61/61A61)
RW14	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RW14	24552121	0XIDE RES B 1/2W 121J (50A61/61A61)
RW15	24366223	CARBON FILM, 1/6W 22K OHM J (50A61/61A61)
RW16	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RW16	24366273	CARBON FILM, 1/6W 27K OHM J (50A61/61A61)
RW17	24366333	CARBON FILM, 1/6W 33K OHM J (50A61/61A61)
RW18	24366101	CARBON FILM, 1/6W 100 OHM J (50A61/61A61)
RW19	24366100	CARBON FILM, 1/6W 10 OHM J (50A61/61A61)
RW20	24366392	CARBON FILM, 1/6W 3.9K OHM J (50A61/61A61)
RW22	24366102	CARBON FILM, 1/6W 1K OHM J (50A61/61A61)
RW23	24366471	CARBON F1LM, 1/6W 470 OHM J (50A61/61A61)
RW24	24366470	CARBON FILM, 1/6W 47 OHM J (50A61/61A61)
RW25	24366182	CARBON FILM, 1/6W 1.8K OHM J (50A61/61A61)
RW30	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RW30	24552100	OXIDE METAL FILM, 1/2W 10 OHM J (50A61/61A61)
RW31	24552331	OXIDE METAL FILM, 1/2W 330 OHM J (50A61/61A61)
RW32	24366820	CARBON FILM, 1/6W 82 OHM J (50A61/61A61)
RW33	24366683	CARBON FILM, 1/6W 68K OHM J (50A61/61A61)
RW34	24366820	CARBON FILM, 1/6W 82 OHM J (50A61/61A61)
RW35	24366683	CARBON FILM, 1/6W 68K OHM J (50A61/61A61)
RW36	24366330	CARBON FILM, 1/6W 33 OHM J (50A61/61A61)

Location No.	Parts No.	Description
RW37	24366152	CARBON FILM, 1/6W 1.5K OHM J (50A61/61A61)
RW38	24366102	CARBON FILM, 1/6W 1K OHM J (50A61/61A61)
RW39	24366152	CARBON FILM, 1/6W 1.5K OHM J (50A61/61A61)
RW40	24872182	CHIP, METAL FILM, 1/16W 1.8K OHM J
RW40	24366330	CARBON FILM, 1/6W 33 OHM J (50A61/61A61)
RW41	24366279	CARBON FILM, 1/6W 2.7 OHM J (50A61/61A61)
RW42	24366279	CARBON FILM, 1/6W 2.7 OHM J (50A61/61A61)
RW43	24554221	OXIDE METAL FILM, 2W 220 OHM J (50A61/61A61)
RW44	24366122	CARBON FILM, 1/6W 1.2K OHM J (50A61/61A61)
RW45	24366122	CARBON FILM, 1/6W 1.2K OHM J (50A61/61A61)
RW51	24366683	CARBON FILM, 1/6W 68K OHM J
RW52	24366473	CARBON FILM, 1/6W 47K OHM J
RW53	24366333	CARBON FILM, 1/6W 33K OHM J
RW54	24366153	CARBON FILM, 1/6W 15K OHM J
RW55	24366102	CARBON FILM, 1/6W 1K OHM J
RW57	24366222	CARBON FILM, 1/6W 2.2K OHM J
RW68	24366333	CARBON FILM, 1/6W 33K OHM J
RW69	24366223	CARBON FILM, 1/6W 22K OHM J
RW74	24366471	CARBON F1LM, 1/6W 470 OHM J
RW76	24366561	CARBON FILM, 1/6W 560 OHM J
RW77	24366561	CARBON FILM, 1/6W 560 OHM J
RW78	24366681	CARBON FILM, 1/6W 680 OHM J
RW91	24366102	CARBON FILM, 1/6W 1K OHM J
RW92	24366101	CARBON FILM, 1/6W 100 OHM J
RW93	24366101	CARBON FILM, 1/6W 100 OHM J
RW94	24366101	CARBON FILM, 1/6W 100 OHM J
RY01	24872103	CHIP, METAL FILM, 1/16W 10K OHM J
RY80	24366331	CARBON FILM, 1/6W 330 OHM J
RY81	24366101	CARBON FILM, 1/6W 100 OHM J
RY82	24366102	CARBON FILM, 1/6W 1K OHM J
RY83	24366472	CARBON FILM, 1/6W 4.7K OHM J
RY87	24366100	CARBON FILM, 1/6W 10 OHM J
RZ01	24872102	CHIP, METAL FILM, 1/16W 1K OHM J (50A61/61A61)
RZ02	24872102	CHIP, METAL FILM, 1/16W 1K OHM J (50A61/61A61)
RZ03	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J (50A61/61A61)
RZ04	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J (50A61/61A61)
RZ05	24872471	CHIP, METAL FILM, 1/16W 470 OHM J (50A61/61A61)
RZ06	24872821	CHIP, METAL FILM, 1/16W 820 OHM J (50A61/61A61)
RZ08	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J (50A61/61A61)
RZ09	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
RZ10	24872471	CHIP, METAL FILM, 1/16W 470 OHM J (50A61/61A61)
RZ12	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J (50A61/61A61)
RZ13	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J (50A61/61A61)
RZ14	24872821	CHIP, METAL FILM, 1/16W 820 OHM J (50A61/61A61)

Location No.	Parts No.	Description
RZ15	24872821	CHIP, METAL FILM, 1/16W 820 OHM J (50A61/61A61)
RZ17	24872471	CHIP, METAL FILM, 1/16W 470 OHM J (50A61/61A61)
RZ18	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J (50A61/61A61)
RZ19	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J (50A61/61A61)
RZ20	24872101	CHIP, METAL FILM, 1/16W 100 OHM J (50A61/61A61)
RZ22	24872471	CHIP, METAL FILM, 1/16W 470 OHM J (50A61/61A61)
RZ29	24872331	CHIP, METAL FILM, 1/16W 330 OHM J (50A61/61A61)
RZ30	24872331	CHIP, METAL FILM, 1/16W 330 OHM J (50A61/61A61)
COILS & TRANSFORMERS		
L101	23289845	COIL, PEAKING 68.00MMHJ COLTRF4680AT
L111	23289845	COIL, PEAKING 68.00MMHJ COLTRF4680AT
L115	23103852	COIL, FILTER, TEM2028AH
L121	23238562	COIL, PEAKING, TRF4109AJ
L122	23238562	COIL, PEAKING, TRF4109AJ
L301	23237975	COIL, PEAKING, TRF4101AC
L302	23248073	COIL, CHOKE, TLN3299D
L303	23248073	COIL, CHOKE, TLN3299D
L304	23103859	COIL, CHOKE, TEM2011
L400	23289840	COIL, PEAKING, TRF4100AT
L401	23103775	COIL, FERRITE CHOKE, TEM2014
L402	23248243	COIL, CHOKE 17X29H 22MH TLN3496AH
⚠ L403	23233977	COIL, TLN2203AG
L404	23248242	COIL, CHOKE 10X13H 2.2MH TLN3495AH
L405	23221076	COIL, HORIZ/RF CHOKE 2.2UH K TLN1015R
L406	23289560	COIL, PEAKING, TRF4560AF
⚠ L408	23248244	COIL, CHOKE EI24 471MMH TLN3497AH
L409	23103775	COIL, FERRITE CHOKE, TEM2014
⚠ L462	23231135	DY&CONVER.MIX YOKE, TDY707AS(R)
⚠ L463	23231135	DY&CONVER.MIX YOKE, TDY707AS(R)
⚠ L464	23231135	DY&CONVER.MIX YOKE, TDY707AS(R)
L472	23102457	VM COIL, 29.1VM4T3PLEAD MAG-1102 (50A61/61A61)
L473	23102457	VM COIL, 29.1VM4T3PLEAD MAG-1102 (50A61/61A61)
L474	23102457	VM COIL, 29.1VM4T3PLEAD MAG-1102 (50A61/61A61)
L481	23237975	COIL, PEAKING, TRF4101AC
L501	23289853	COIL, PEAKING 12MMH J COLTRF4120AT
L502	23289853	COIL, PEAKING 12MMH J COLTRF4120AT
L503	23289853	COIL, PEAKING 12MMH J COLTRF4120AT
L701	23103866	FILTEM2105T
L702	23103866	FILTEM2105T
L707	23238562	COIL, PEAKING, TRF4109AJ
L708	23238562	COIL, PEAKING, TRF4109AJ
L709	23238562	COIL, PEAKING, TRF4109AJ
L710	23238562	COIL, PEAKING, TRF4109AJ
L711	23238562	COIL, PEAKING, TRF4109AJ
L712	23238562	COIL, PEAKING, TRF4109AJ
L713	23238562	COIL, PEAKING, TRF4109AJ
L714	23238562	COIL, PEAKING, TRF4109AJ
L720	23289102	COIL, TPF4102AF
L721	23237805	COIL, PEAKING, COLTRF4222AC
L722	23289102	COIL, TPF4102AF
L723	23237805	COIL, PEAKING, COLTRF4222AC
L724	23289102	COIL, TPF4102AF
L725	23237805	COIL, PEAKING, COLTRF4222AC

Location No.	Parts No.	Description
L726	23289102	COIL, TPF4102AF
L727	23237805	COIL, PEAKING, COLTRF4222AC
L728	23289102	COIL, TPF4102AF
L729	23237805	COIL, PEAKING, COLTRF4222AC
L730	23289102	COIL, TPF4102AF
L731	23237805	COIL, PEAKING, COLTRF4222AC
L737	23289560	COIL, PEAKING, TRF4560AF
L738	23289560	COIL, PEAKING, TRF4560AF
L739	23289560	COIL, PEAKING, TRF4560AF
L740	23289560	COIL, PEAKING, TRF4560AF
L745	23103866	FILTEM2105T
L746	23103866	FILTEM2105T
L748	23103866	FILTEM2105T
L749	23103866	FILTEM2105T
L751	23103864	FILTEM2103T
L752	23103795	IMPEDER, MMZ2012S301A
L753	23103866	FILTEM2105T
L754	23103866	FILTEM2105T
L851	23103880	COIL, CHOKE, TEM2011Y
L852	23103880	COIL, CHOKE, TEM2011Y
L853	23248073	COIL, CHOKE, TLN3299D
L854	23248073	COIL, CHOKE, TLN3299D
L861	23103880	COIL, CHOKE, TEM2011Y
L862	23103937	FILTER, EM2004
L881	23103880	COIL, CHOKE, TEM2011Y
L882	23103880	COIL, CHOKE, TEM2011Y
L885	23248073	COIL, CHOKE, TLN3299D
L888	23103880	COIL, CHOKE, TEM2011Y
L889	23103880	COIL, CHOKE, TEM2011Y
L891	23103880	COIL, CHOKE, TEM2011Y
L892	23103880	COIL, CHOKE, TEM2011Y
L893	23103880	COIL, CHOKE, TEM2011Y
L894	23103880	COIL, CHOKE, TEM2011Y
L895	23248073	COIL, CHOKE, TLN3299D
L896	23248073	COIL, CHOKE, TLN3299D
L897	23248087	COIL, CHOKE, TLN3312D
L898	23248087	COIL, CHOKE, TLN3312D
L961	23289100	COIL, PEAKING, TRF4100AF
L962	23237991	COIL, PEAKING, TRF4479AC
L963	23289470	COIL, PEAKING, TRF4470AF
L7701	23103859	COIL, CHOKE, TEM2011
L7702	23103859	COIL, CHOKE, TEM2011
L7703	23103859	COIL, CHOKE, TEM2011
L7704	23103859	COIL, CHOKE, TEM2011
L7705	23103859	COIL, CHOKE, TEM2011
L7706	23103859	COIL, CHOKE, TEM2011
LA22	23245858	COIL, TPF4100CB
LA49	23245858	COIL, TPF4100CB
LV01	23103852	COIL, FILTER, TEM2028AH
LV02	23103852	COIL, FILTER, TEM2028AH
LV05	23289560	COIL, PEAKING, TRF4560AF
LV06	23289560	COIL, PEAKING, TRF4560AF
LV07	23238719	COLT, TPF4399AJ
LV13	23289100	COIL, PEAKING, TRF4100AF
LV14	23289100	COIL, PEAKING, TRF4100AF
LV20	23238705	COIL, PEAKING, TRF4560AJ
LW01	23103845	COIL, COMMONMODE, TEM2030AY
LW02	23261974	COIL, FERRITE BEAD, HC5-035 (50A61/61A61)
LW04	23245834	COIL CHIP TRF4220CB
LW04	23103859	COIL, CHOKE, TEM2011 (50A61/61A61)
LW05	23103859	COIL, CHOKE, TEM2011 (50A61/61A61)
LW07	23289220	COIL, PEAKING, TRF4220AF
LY01	24000576	JUMPER CHIP, 3216TYPE
LY22	23103852	COIL, FILTER, TEM2028AH

Location No.	Parts No.	Description
LZ01	23238710	COIL, PEAKING, TRF4220AJ (50A61/61A61)
LZ01	23289330	COLTRF4330AF (50A11)
LZ02	23238714	COIL, PEAKING, TRF4100AJ (50A61/61A61)
LZ02	23289109	COLTRF41R0AF (50A11)
LZ03	23238714	COIL, PEAKING, TRF4100AJ (50A61/61A61)
LZ03	23289339	COLTRF43R3AF (50A11)
LZ04	23238714	COIL, PEAKING, TRF4100AJ (50A61/61A61)
LZ04	23289109	COLTRF41R0AF (50A11)
LZ05	23238714	COIL, PEAKING, TRF4100AJ (50A61/61A61)
LZ05	23289100	COIL, PEAKING, TRF4100AF (50A11)
LZ06	23289270	COLTRF4270AF (50A11)
LZ08	23238707	COIL, PEAKING, TRF4390AJ (50A61/61A61)
LZ08	23289180	COLTRF4180AF (50A11)
LZ11	23238710	COIL, PEAKING, TRF4220AJ (50A61/61A61)
LZ12	23238710	COIL, PEAKING, TRF4220AJ (50A61/61A61)
T401	23224367	TRANSFORMER, HORIZ.DRIVER, TLN1098AH
T403	23224364	TRANSFORMER, TLN2168AH
⚠ T461	23236623	TRANS FLYBACK TFB3086AD
⚠ T461A	23192961	ANODE CAP ASSY, TCC5605AU
T801	23211698	COIL, LINE FILTER, TRF3218AK
T802	23211729	COIL, LINE FILTER TRF3232AQ
T840	23217530	TRANSFORMER, POWER EI28 9.1V TPW1570AT
T862	23217533	TRANSFORMER, CONVERTER TPW3447AS
SEMICONDUCTORS		
Q151	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q152	A6359871	TR 2SC3326B LTAPE
Q201	23314204	TRANSISTOR, 2SC2412K, Q, (50A61/61A61)
Q202	23314204	TRANSISTOR, 2SC2412K, Q,
Q261	23314204	TRANSISTOR, 2SC2412K, Q,
Q262	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q263	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q301	23319787	IC, LA7833S
Q301B	70391355	SCREW, 3X8MM
Q302	B0384625	IC, TA8859CP
Q303	23314204	TRANSISTOR, 2SC2412K, Q,
Q304	70129117	QUAD C0MPARAT0R
Q305	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q306	70129117	QUAD C0MPARAT0R
Q308	23314204	TRANSISTOR, 2SC2412K, Q,
Q309	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q310	23314204	TRANSISTOR, 2SC2412K, Q,
Q401	23114755	TRANSISTOR, 2SC2482FA-1
Q402	23114437	TRANSISTOR, 2SC752GTM-Y
Q403	A6073390	TRANSISTOR, NMOS FET
Q404	23314955	TRANSITOR, 2SD2553(FA)
Q404B	72471082	SCREW, 3X10MM
Q405	23114437	TRANSISTOR, 2SC752GTM-Y
Q406	23205079	TRANSISTOR, VCBO=1500V IC=50MA 2SC4686A (50A61/61A61)
Q407	23319808	IC, M5218AP
Q408	23314962	TRANSISTOR, KTA1266 Y
Q409	23314965	TRANSISTOR, KTC3198 Y
Q430	23314965	TRANSISTOR, KTC3198 Y
Q481	B0347235	IC, TA75339AP
Q492	A6547305	TRANSISTOR, VCEO=-250V HF
Q501	B0385677	BUS P/N VCD IC N-DIP 56
Q502	23314204	TRANSISTOR, 2SC2412K, Q,

Location No.	Parts No.	Description
Q503	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q520	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q521	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q522	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q523	23314204	TRANSISTOR, 2SC2412K, Q,
Q524	23114502	TRANSISTOR, RN1401
Q525	23114502	TRANSISTOR, RN1401
Q526	23114502	TRANSISTOR, RN1401
Q601	B0376885	IC, TA8216H
Q601B	70391356	SCREW
Q612	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
Q621	23000381	IC, 2CH AUDIO PRO N-DIP22PIN CXA2021S (50A61/61A61)
Q622	B01A0119	IC 2CH AUDIO PRO SSOP24
Q661	A6359871	TR 2SC3326B LTAPE
Q662	A6359871	TR 2SC3326B LTAPE
Q663	23906596	IC, BA4558
Q664	A6014041	TRANSISTOR, RN2404
Q681	A6359871	TR 2SC3326B LTAPE
Q682	A6359871	TR 2SC3326B LTAPE
Q701	B01B4088	IC, CMOS PDC3 QFP100 0.5
Q703	23905014	IC, LC78816M
Q704	23905014	IC, LC78816M
Q705	23905014	IC, LC78816M
Q707	23905013	IC, TLC2932IPW
Q709	23906908	IC, MC33078D
Q711	23904665	IC, NM24C04EN
Q715	23906908	IC, MC33078D
Q717	23906908	IC, MC33078D
Q719	23906908	IC, MC33078D
Q751	23905094	IC, STK392-110
Q752	23905094	IC, STK392-110
Q754	23904521	IC, AN7805
Q754B	70391356	SCREW
Q755	23904525	IC, AN7809
Q755B	70391356	SCREW
Q764	23319720	IC, C-MOS HEX SCHMITT INV SOP14 TC74HC14AF
Q765	23314204	TRANSISTOR, 2SC2412K, Q,
Q766	23314204	TRANSISTOR, 2SC2412K, Q,
Q767	23904442	IC, C-MOS QUAD BILAT-SW. SOP14 TC74HC4066AF
Q801	23906540	IC, HYBRID VDS=400V STR-Z4267
Q819	23314965	TRANSISTOR, KTC3198 Y
Q830	23905977	IC, PQ09RD11
Q830B	70391356	SCREW
Q831	23905976	IC, PQ05RD11
Q831B	70391356	SCREW
Q840	23905976	IC, PQ05RD11
Q840B	70391356	SCREW
Q841	70129444	IC, PST994D
Q843	23314965	TRANSISTOR, KTC3198 Y
Q862	23000823	PHOTO COUPLER, CTR=(100-300)% TLP421F(GR)
⚠ Q863	23319305	IC, SE140N
Q865	23314962	TRANSISTOR, KTA1266 Y
Q902	23114433	TRANSISTOR, 2SC1815-Y
Q913	23114433	TRANSISTOR, 2SC1815-Y
Q922	23114433	TRANSISTOR, 2SC1815-Y
Q961	23114433	TRANSISTOR, 2SC1815-Y

Location No.	Parts No.	Description
Q962	23114422	TRANSISTOR, 2SA562TM-Y(T
Q963	23114433	TRANSISTOR, 2SC1815-Y
Q964	23114425	TRANSISTOR, 2SA1015-Y(TE
Q965	23114433	TRANSISTOR, 2SC1815-Y
Q966	23114425	TRANSISTOR, 2SA1015-Y(TE
Q971	23114433	TRANSISTOR, 2SC1815-Y
Q972	23114433	TRANSISTOR, 2SC1815-Y
Q973	23114433	TRANSISTOR, 2SC1815-Y
Q974	23114433	TRANSISTOR, 2SC1815-Y
Q975	23114433	TRANSISTOR, 2SC1815-Y
Q976	23114433	TRANSISTOR, 2SC1815-Y
Q981	23114425	TRANSISTOR, 2SA1015-Y(TE
Q982	23114425	TRANSISTOR, 2SA1015-Y(TE
Q983	23114433	TRANSISTOR, 2SC1815-Y
Q984	23114425	TRANSISTOR, 2SA1015-Y(TE
Q7801	23314204	TRANSISTOR, 2SC2412K, Q,
Q7803	A6030112	IC CHIP BILATERAL SWITCH
Q7804	A6030112	IC CHIP BILATERAL SWITCH
QA01	23000868	IC, MCU 1CHIP 16BIT 4M 64
QA02	23905666	IC, 16384BITS CMOS EEPROM AT24C1610PC
QA71	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB01	23114528	TRANSISTOR, 2SC1740S (50A11)
QB14	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB21	23114528	TRANSISTOR, 2SC1740S (50A61/61A61)
QB30	23314965	TRANSISTOR, KTC3198 Y
QB81	A6359871	TR 2SC3326B LTAPE
QB82	A6359871	TR 2SC3326B LTAPE
QB83	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB84	23314204	TRANSISTOR, 2SC2412K, Q,
QB85	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB86	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB87	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB88	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QB92	23314204	TRANSISTOR, 2SC2412K, Q,
QD01	B0377277	SURROUND IC DIP 16PIN
QR02	23314204	TRANSISTOR, 2SC2412K, Q,
QR14	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QR15	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QR16	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ
QR17	23318981	IC, MC14053BF
QS01	23114623	TRANSISTOR, 2SC2878-A(TEM
QS11	23114623	TRANSISTOR, 2SC2878-A(TEM
QS12	23114466	TRANSISTOR, R1=R2=47K-OHM TO92S RN2204
QS13	23314965	TRANSISTOR, KTC3198 Y
QS14	23314965	TRANSISTOR, KTC3198 Y
QV01	B0384761	DUAL AV SW IC NDIP 54
QV20	23114460	TRANSISTOR, RN1204
QV21	23114528	TRANSISTOR, 2SC1740S
QV22	23114530	TRANSISTOR, 2SA933S
QV23	23114530	TRANSISTOR, 2SA933S
QV48	23114528	TRANSISTOR, 2SC1740S
QV50	23205045	TRANSISTOR, VCBO=-60V SMT3 2SA1037AKQ

Location No.	Parts No.	Description
QW01	23318981	IC, MC14053BF
QW05	23314204	TRANSISTOR, 2SC2412K, Q,
QW06	23114433	TRANSISTOR, 2SC1815-Y (50A61/61A61)
QW07	23114437	TRANSISTOR, 2SC752GTM-Y (50A61/61A61)
QW09	23114528	TRANSISTOR, 2SC1740S (50A61/61A61)
QW10	23114530	TRANSISTOR, 2SA933S (50A61/61A61)
QW11	23314204	TRANSISTOR, 2SC2412K, Q,
QW11	A6550640	TRANSISTOR, 2SA1837 (50A61/61A61)
QW12	A6369650	TRANSISTOR, 2SC4793 (50A61/61A61)
QW17	23114502	TRANSISTOR, RN1401
QW19	23114433	TRANSISTOR, 2SC1815-Y (50A61/61A61)
QW20	23114433	TRANSISTOR, 2SC1815-Y (50A61/61A61)
QW52	23114528	TRANSISTOR, 2SC1740S
QW53	23114528	TRANSISTOR, 2SC1740S
QW54	23114528	TRANSISTOR, 2SC1740S
QW60	23114530	TRANSISTOR, 2SA933S
QW68	23114528	TRANSISTOR, 2SC1740S
QY26	23114528	TRANSISTOR, 2SC1740S
QY27	23114530	TRANSISTOR, 2SA933S
QZ01	23906904	IC, TC90A49P (50A61/61A61)
QZ01	23906207	IC, TC90A45P (50A11)
QZ02	A6541132	TRANSISTOR, 2SA1162 -(Y) (50A61/61A61)
QZ02	23114528	TRANSISTOR, 2SC1740S (50A11)
QZ03	A6541132	TRANSISTOR, 2SA1162 -(Y) (50A61/61A61)
QZ03	23114528	TRANSISTOR, 2SC1740S (50A11)
QZ04	A6541132	TRANSISTOR, 2SA1162 -(Y) (50A61/61A61)
QZ04	23114530	TRANSISTOR, 2SA933S (50A11)
QZ05	23114475	TRANSISTOR, 2SC2712. Y (50A61/61A61)
QZ06	A6541132	TRANSISTOR, 2SA1162 -(Y) (50A61/61A61)
QZ07	A6541132	TRANSISTOR, 2SA1162 -(Y) (50A61/61A61)
QZ08	23114475	TRANSISTOR, 2SC2712. Y (50A61/61A61)
D101	23316756	DIODE, ZENER, MTZJ33D
D201	23118041	DIODE, MA111
D215	23118041	DIODE, MA111
D216	23118041	DIODE, MA111
D217	23118041	DIODE, MA111
D218	23118041	DIODE, MA111
D219	23118041	DIODE, MA111
D220	23118041	DIODE, MA111
D221	23118041	DIODE, MA111
D222	23118041	DIODE, MA111
D223	23118041	DIODE, MA111
D301	23316577	DIODE, ZENER, MA8068-M
D302	23118094	DIODE, EU2A
D303	23316610	DIODE, ZENER CHIP 17.55-18.45V MA8180-M
D304	23316794	DIODE, SC570A
D305	23118822	DIODE, ERB12-02
D306	23118822	DIODE, ERB12-02
D307	23118041	DIODE, MA111
D310	23118041	DIODE, MA111
D320	23316576	DIODE, ZENER CHIP VZ6.44-6.77V MA8068-L
D336	23316583	DIODE, ZENER CHIP VZ3.87-4.10V MA8039-H
D401	23118094	DIODE, EU2A
D402	23118094	DIODE, EU2A
D403	23316254	DIODE, ERC06-15
D404	23316969	DIODE, VRRM=600V IO=2.5A ERD29-06
D405	23316254	DIODE, ERC06-15
D406	23118094	DIODE, EU2A
D407	23118707	DIODE, RP-1H (50A61/61A61)
D408	23118094	DIODE, EU2A
D413	23118707	DIODE, RP-1H (50A61/61A61)
D415	23316731	DIODE, ZENER, MTZJ18B
D416	23316690	DIODE, ZENER, MTZJ10B
D421	23118041	DIODE, MA111

Location No.	Parts No.	Description
D422	23118041	DIODE, MA111
D430	23316591	DIODE, ZENER, MA8100-M
D431	23118041	DIODE, MA111
D432	23316591	DIODE, ZENER, MA8100-M
D481	23118859	DIODE, 1SS133
⚠ D482	23115774	DIODE, ZENER, RD6.2E(FA-1)
D490	23118859	DIODE, 1SS133
D491	23316758	DIODE, ZENER VZ32.79-34.49 DO34 MTZ J 36B
D512	23118041	DIODE, MA111
D513	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
D532	23118822	DIODE, ERB12-02
D533	23316600	DIODE, ZENER 12.73-13.40V
D534	24000824	JUMPER CHIP, 2125TYPE
D601	23118041	DIODE, MA111
D602	23118041	DIODE, MA111
D603	23118041	DIODE, MA111
D604	23118041	DIODE, MA111
D607	23316616	DIODE, ZENER CHIP 21.45-22.55V MA8220-M
D608	23316616	DIODE, ZENER CHIP 21.45-22.55V MA8220-M
D611	23118041	DIODE, MA111
D612	23118041	DIODE, MA111
D613	24000824	JUMPER CHIP, 2125TYPE
D661	23316570	DIODE, ZENER CHIP VZ5.30-5.58V MA8056-L
D701	23115537	DIODE, 1SS131, 1SS133 NI HENKOU
D702	23115537	DIODE, 1SS131, 1SS133 NI HENKOU
D703	23115537	DIODE, 1SS131, 1SS133 NI HENKOU
D704	23115537	DIODE, 1SS131, 1SS133 NI HENKOU
D705	23316675	DIODE, ZENER, MTZJ6.2B
D706	23316675	DIODE, ZENER, MTZJ6.2B
D707	23316675	DIODE, ZENER, MTZJ6.2B
D801	23357041	DIODE, LN6SB60-F05
D820	23316758	DIODE, ZENER VZ32.79-34.49 DO34 MTZ J 36B
D821	23118859	DIODE, 1SS133
D840	23316962	DIODE, S1WBA20
D843	23118859	DIODE, 1SS133
D845	23118859	DIODE, 1SS133
D851	23357215	DIODE, D4SBS6
D862	23118094	DIODE, EU2A
⚠ D863	23316689	DIODE, ZENER, MTZJ10A
D864	23118094	DIODE, EU2A
D873	23316747	DIODE, ZENER, MTZJ27C
D875	23316688	DIODE, ZENER, MTZJ9.1C
D876	23316747	DIODE, ZENER, MTZJ27C
D877	23316747	DIODE, ZENER, MTZJ27C
D878	23316686	DIODE, ZENER, MTZJ9.1A
D881	23118859	DIODE, 1SS133
D884	23357217	DIODE, D4SBL40
D885	23357216	DIODE, D4SBL20U
D891	23357214	DIODE, D4SBS4
D892	23357042	DIODE, VRM=200V IO=5A X2 220FP FMX-12S(023-108)
D899	24000948	VARISTOR, TNR15B391K
D901	23118859	DIODE, 1SS133
D902	23118859	DIODE, 1SS133
D911	23118859	DIODE, 1SS133
D912	23118859	DIODE, 1SS133
D921	23118859	DIODE, 1SS133
D922	23118859	DIODE, 1SS133
D924	23118859	DIODE, 1SS133
D925	23118859	DIODE, 1SS133
D961	23118859	DIODE, 1SS133

Location No.	Parts No.	Description
D965	23118859	DIODE, 1SS133
D966	23118859	DIODE, 1SS133
D975	23118859	DIODE, 1SS133
DA02	23316574	DIODE, ZENER CHIP VZ6.05-6.36V MA8062-M
D7703	23316675	DIODE, ZENER, MTZJ6.2B
D7705	23118041	DIODE, MA111
D7706	23118041	DIODE, MA111
D7707	23118041	DIODE, MA111
D7708	23118041	DIODE, MA111
D7709	23316675	DIODE, ZENER, MTZJ6.2B
D7710	23316716	DIODE, ZENER, MTZJ11B
D7711	23316687	DIODE, ZENER, MTZJ9.1B
D7712	23118041	DIODE, MA111
D7713	23118041	DIODE, MA111
D7717	23316675	DIODE, ZENER, MTZJ6.2B
D7718	23316675	DIODE, ZENER, MTZJ6.2B
D7719	23316675	DIODE, ZENER, MTZJ6.2B
D7801	23118041	DIODE, MA111
DA11	23118859	DIODE, 1SS133
DA34	23118041	DIODE, MA111
DA43	23118041	DIODE, MA111
DA44	23118041	DIODE, MA111
DA45	23118041	DIODE, MA111
DA46	23118041	DIODE, MA111
DB01	23358564	LED, LAMP RED SLR-56VC3FPQ (50A11)
DB13	23358522	DIODE, LED, SIR-56SB3F
DB21	23358564	LED, LAMP RED SLR-56VC3FPQ (50A61/61A61)
DB30	23118859	DIODE, 1SS133
DV01	23316686	DIODE, ZENER, MTZJ9.1A
DV02	23316686	DIODE, ZENER, MTZJ9.1A
DV03	23316686	DIODE, ZENER, MTZJ9.1A
DV07	23316686	DIODE, ZENER, MTZJ9.1A
DV08	23316686	DIODE, ZENER, MTZJ9.1A
DV09	23316686	DIODE, ZENER, MTZJ9.1A
DV11	23316686	DIODE, ZENER, MTZJ9.1A
DV12	23316686	DIODE, ZENER, MTZJ9.1A
DV13	23316686	DIODE, ZENER, MTZJ9.1A
DV17	23316686	DIODE, ZENER, MTZJ9.1A
DV25	23118859	DIODE, 1SS133
DW04	23118859	DIODE, 1SS133 (50A61/61A61)
DW05	23118859	DIODE, 1SS133 (50A61/61A61)
DW21	23118859	DIODE, 1SS133 (50A61/61A61)

MISCELLANEOUS

B224	23035412	SCREW
B225	23035412	SCREW
B230	23037312	SCREW
B233	23035412	SCREW
B234	23035412	SCREW
B235	23035310	SCREW
BB10	23713014	BRIDGE PLUG 16P 1.5
BB11	23713013	BASE SOCKET 16P 1.5
BB20	23713014	BRIDGE PLUG 16P 1.5
BB21	23713013	BASE SOCKET 16P 1.5
BB30	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB31	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB300	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E
E913	23198540	CRT EARTH ASSY, TP48E60
E926	23962417	AD 133RTV (61A61)
E943	23198540	CRT EARTH ASSY, TP48E60
E956	23962417	AD 133RTV (61A61)
E973	23198540	CRT EARTH ASSY, TP48E60

Location No.	Parts No.	Description
E986	23962417	AD 133RTV (61A61)
F470	23144906	FUSE, CARTRIDGE F1.25U1
F470A	23165433	FUSE HOLDER, 5.2 SOC
F801	23144481	FUSE
F801A	23165433	FUSE HOLDER, 5.2 SOC
F850	23144893	FUSE, 3.15A
F850A	23165433	FUSE HOLDER, 5.2 SOC
F851	23144893	FUSE, 3.15A
F851A	23165433	FUSE HOLDER, 5.2 SOC
F860	23144511	FUSE, AXIAL, 125V 4.0A
F889	23144893	FUSE, 3.15A
F889A	23165433	FUSE HOLDER, 5.2 SOC
F890	23144897	FUSE, 2A 125V
F890A	23165433	FUSE HOLDER, 5.2 SOC
F891	23144854	FUSE
F891A	23165433	FUSE HOLDER, 5.2 SOC
G005	23118859	DIODE, 1SS133 (50A61/61A61)
G023	24327180	METAL FILM, 1/4W 180 OHM F
G031	23289470	COIL, PEAKING, TRF4470AF
G032	24366332	CARBON F1LM, 1/6W 3.3K OHM J
G033	23289221	COIL, PEAKING, TRF4221AF
G034	23289470	COIL, PEAKING, TRF4470AF
G036	24366332	CARBON F1LM, 1/6W 3.3K OHM J
G037	23289221	COIL, PEAKING, TRF4221AF
G039	23289470	COIL, PEAKING, TRF4470AF
G040	24366332	CARBON F1LM, 1/6W 3.3K OHM J
G041	23289221	COIL, PEAKING, TRF4221AF
G101	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
G102	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
GJ01	24000824	JUMPER CHIP, 2125TYPE
GJ05	24000824	JUMPER CHIP, 2125TYPE
GJ06	24000824	JUMPER CHIP, 2125TYPE
GJ07	24000824	JUMPER CHIP, 2125TYPE
GJ31	24000824	JUMPER CHIP, 2125TYPE
GJ32	24000824	JUMPER CHIP, 2125TYPE
GJ56	24000824	JUMPER CHIP, 2125TYPE
GJ59	24000824	JUMPER CHIP, 2125TYPE
GJ300	24000824	JUMPER CHIP, 2125TYPE
GJ701	24000824	JUMPER CHIP, 2125TYPE
GJ702	24000824	JUMPER CHIP, 2125TYPE
GJ705	24000824	JUMPER CHIP, 2125TYPE
GJ707	24000824	JUMPER CHIP, 2125TYPE
GJ708	24000824	JUMPER CHIP, 2125TYPE
GJ80	24000824	JUMPER CHIP, 2125TYPE
GR01	24000824	JUMPER CHIP, 2125TYPE
GR02	24000824	JUMPER CHIP, 2125TYPE
H003	23344421	ANT SWITCH, USPIP 360MM 9V SMK RSU133X6
H003A	23740989	NUT
KB11	23000852	IC, REMOCON RECEIVER PIC-37043TE2
P701	23367724	CONNECTOR
P702	23367724	CONNECTOR
P708	23902655	CONNECTOR, 15P
P709	23902655	CONNECTOR, 15P
P713	23164787	PLUG, 7P
P714	23164787	PLUG, 7P
P715	23164787	PLUG, 7P
P801	23372117	POWER CORD, U/C 125V10A HSV 5 CMC-02P 5
P802	23368013	CONNECTOR, PLUG, 2P 11.88MM W VT-JST
PV02	23365819	JACK
PV05	23368646	PLUG, B-B 2MM 56P TAIKO
PV06	23903040	SOCKET, B-B 2MM 56P TAIKO
PZ01	23368130	CONNECTOR, 10P

Location No.	Parts No.	Description
PZ02	23902213	CONNECTOR, 10P
S602	23145412	SWITCH (50A61/61A61)
SA01	23145226	SWITCH, 1C1P, PUSH (50A11)
SA02	23145226	SWITCH, 1C1P, PUSH (50A11)
SA03	23145226	SWITCH, 1C1P, PUSH (50A11)
SA04	23145226	SWITCH, 1C1P, PUSH (50A11)
SA05	23145226	SWITCH, 1C1P, PUSH (50A11)
SA06	23145226	SWITCH, 1C1P, PUSH (50A11)
SA07	23145226	SWITCH, 1C1P, PUSH (50A11)
SA08	23145226	SWITCH, 1C1P, PUSH (50A11)
SA09	23145226	SWITCH, 1C1P, PUSH (50A11)
SA21	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA22	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA23	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA24	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA25	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA26	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA27	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA28	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SA29	23145226	SWITCH, 1C1P, PUSH (50A61/61A61)
SR81	23146577	RELAY, DLS5D1-O(M)0.25W DLS5D1-O(M)0.
UY01	23148731	MULTI PICTURE MODULE, PNT 6MW MKMP33
V901A	23903148	SOCKET, ISH-44S-E ICE #5
V902A	23903148	SOCKET, ISH-44S-E ICE #5
V903A	23903148	SOCKET, ISH-44S-E ICE #5
W661	23151232	SPEAKER, SPK-1235, 160X160, 65HZ, 8 OHM
W662	23151232	SPEAKER, SPK-1235, 160X160, 65HZ, 8 OHM
X401	23153721	CERAMIC RESONATOR, 503KHZ
X501	23153961	CRYSTAL, 3.58MHZ
XA01	23153533	CERAMIC RESONATOR, CERA RESO TCR1082AM
⚠ Z401	24083013	COMPOSITE PARTS, CR-BLOCK TPA5010AH
Z402	23140203	SPARK GAP, 2.0-3.0KV C-010 AG20PC152F-L3N
Z410	23110841	FOCUS PACK, TPA6030
Z410A	23505177	CABLE, FOCUS
Z702	23103823	COIL, COMMONMODE TEM2027D
Z703	23103823	COIL, COMMONMODE TEM2027D
Z704	23103823	COIL, COMMONMODE TEM2027D
Z705	23103823	COIL, COMMONMODE TEM2027D
Z706	23103823	COIL, COMMONMODE TEM2027D
Z707	23103823	COIL, COMMONMODE TEM2027D
Z711	23103823	COIL, COMMONMODE TEM2027D
Z712	23103823	COIL, COMMONMODE TEM2027D

PC BOARD ASSEMBLIES

✻ E031Z	23786451	PC BOARD ASSY, CRT-D/R PD0178A1
✻ E032Z	23786452	PC BOARD ASSY, CRT-D/G PD0178A2
✻ E033Z	23786453	PC BOARD ASSY, CRT-D/B PD0178A3
✻ E034Z	23786454	PC BOARD ASSY, FRONT CONT PD0178A4
✻ E035Z	23786455	PC BOARD ASSY, FRONT A/V PD0178A5
✻ E036Z	23786456	PC BOARD ASSY, SVM PD0178A6
✻ E040Z	23786457	PC BOARD ASSY, REMOTE PD0178A7
✻ U701	23784738	PC BOARD ASSY, DIGI-CONV 50A60 PU PB9453A (50A61/50A11)
✻ U701	23784779	PC BOARD ASSY, DIGI-CONV PB9453C (61A61)
✻ U801	23786449	PC BOARD ASSY, DEF/POWER PD0176A (50A61/61A61)
✻ U801	23786616	PC BOARD ASSY, DEF/POWER PD0176B (50A11)

Location No.	Parts No.	Description
✻ U901	23786448	PC BOARD ASSY, SIG/CONV PD0175A (50A61)
✻ U901	23786615	PC BOARD ASSY, SIG/CONV PD0175C (50A11)
✻ U901	23786614	PC BOARD ASSY, SIG/CONV PD0175B (61A61)
✻ UV01	23786450	PC BOARD ASSY, A/V PD0177A (50A61/61A61)
✻ UV01	23786617	PC BOARD ASSY, A/V PD0177B (50A11)
✻ UZ01	23784601	PC BOARD ASSY, DIG COM 3LINE PB9398 (50A61/61A61)
PICTURE TUBE		
⚠ V901R	23008509	CRT COUPLG R 50A61 (50A61)
⚠ V901R	23008625	COUP R (61A61)
⚠ V902G	23008510	CRT COUPLING G 50A61 (50A61)
⚠ V902G	23008626	COUP G (61A61)
⚠ V903B	23008511	CRT COUPLING B 50A61 (50A61)
⚠ V903B	23008627	COUP B (61A61)
TUNER		
H001	23321411	TUNER, TIM 181CH IIC PH SHINSEN EL967LW
HY01	23321412	TUNER, TIF 181CH IIC PH TDL EL963L
ACCESSORIES		
K912	23306263	REMOTE CONTROL TRANSMITTER, CT-9946 (50A61/61A61)
K912	23306359	REMOTE CONTROL TRANSMITTER, CT-90037 (50A11)
Y101	23565302	OWNER'S MANUAL, ENGLISH (50A61/61A61)
Y101	23565363	OWNER'S MANUAL, ENGLISH
Y101F	23565303	OWNER'S MANUAL, FRENCH (50A61/61A61)
Y101F	23565364	OWNER'S MANUAL, FRENCH (50A11)
CABINET PARTS		
A001	23411563	WOOD CABI SHIP 5A61
A101	23411375	WOOD CAB (50A11)
A101	23411389	WOOD CAB (61A61)
A102	23527186	GRILLE, SPK GRILLE ASSY 50A61 50A61 (50A61)
A102	23527131	SPK GRILLE (50A11)
A102	23527149	SPK GRILLE (61A61)
A103	23527132	SPK GRILLE (50A11)
A150	23411402	CABINET, LIGHT BOX 50HX70 50HX70
A160	23469228	CASTER, TP50H60
A201	23549478	COVER, BEZEL TN50X81 TN50X81;A985255E (50A61)
A201	23549258	BEZEL (50A11)
A201	23540424	BEZEL (61A61)
A202	23450394	CONTROL PANEL ASSY 50A61 (50A61)
A202	23450257	PANEL (50A11)
A202	23450394	PANEL (61A61)
A212	23450258	PANEL (50A11)
A213	23427974	DOOR, PROPER 50A61 (50A61/61A61)
A213	23427652	DOOR 50V (50A11)
A214	23451976	PUSH CATCH, CLICK
A224	23445523	BUTTON, CONTROL 50A61 (50A61/61A61)
A224	23445255	BUTTON (50A11)
A268	23540172	COVER, FRONT COVER 61H70 61H70 (50A61/61A61)
A268	23450340	FRONT PANEL (50A11)
A401	23005778	COM BACK (61A61)

Location No.	Parts No.	Description
A421	23540170	COVER, REAR BOARD 50A60 50A60 (50A61/50A11)
A421	23938001	REAR BOARD (61A61)
A424	23540074	COVER, BACK BOARD 50A60 50A60 (50A61/50A11)
A424	23540472	BACK BOARD (61A61)
A510	23030815	WOOD SCREW PTD #6 X 3/4 TNP LOCAL
A519	23030815	WOOD SCREW PTD #6 X 3/4 TNP LOCAL
A521	23030815	WOOD SCREW PTD #6 X 3/4 TNP LOCAL
A535	23030815	WOOD SCREW PTD #6 X 3/4 TNP LOCAL
A539	23030815	WOOD SCREW PTD #6 X 3/4 TNP LOCAL
A543	72471068	SCREW, 4X12
A701	23525844	CARTON, CASE(HSC) TZ50V61 (50A61/50A11)
A701	23064271	CARTON (61A61)
A703	23935847	TOP PACKING, TZ50V61 (50A61/50A11)
A703	23946072	PACKING (61A61)
A708	23935848	BOTTOM PACKING, TZ50V61 (50A61/50A11)
A708	23946073	PACKING (61A61)
A721	23943628	PLYETHLENE COVERING 46GM88T (50A61/50A11)
K111	23430111	LENS, DELTA 77-A/B ASSEMBLY (50A61/50A11)
K111	23430160	DELTA 79-A/B (61A61)
K113	23430111	LENS, DELTA 77-A/B ASSEMBLY (50A61/50A11)
K113	23430160	DELTA 79-A/B (61A61)
K501	23311933	SCREEN, 50KLN LENTI SHEET (50A61/50A11)
K501	23311889	SCREEN61DL-L (61A61)
K502	23430799	SCREEN, 50KKP FRESNEL SHEET SCREEN50KKPF (50A61/50A11)
K502	23837529	SCREEN61DH-F (61A61)
K503	23311865	SCREEN, PROTECTOR 50KL (50A61/50A11)
K503	23430571	SCR-PRO61RH (61A61)
K511	23311914	SCREEN61DL (61A61)
K601	23430509	MIRROR50, HR94SC (50A61)
K601	23430313	MIRROR48(E) (50A11)
K601	23430528	MIRROR61H (61A61)

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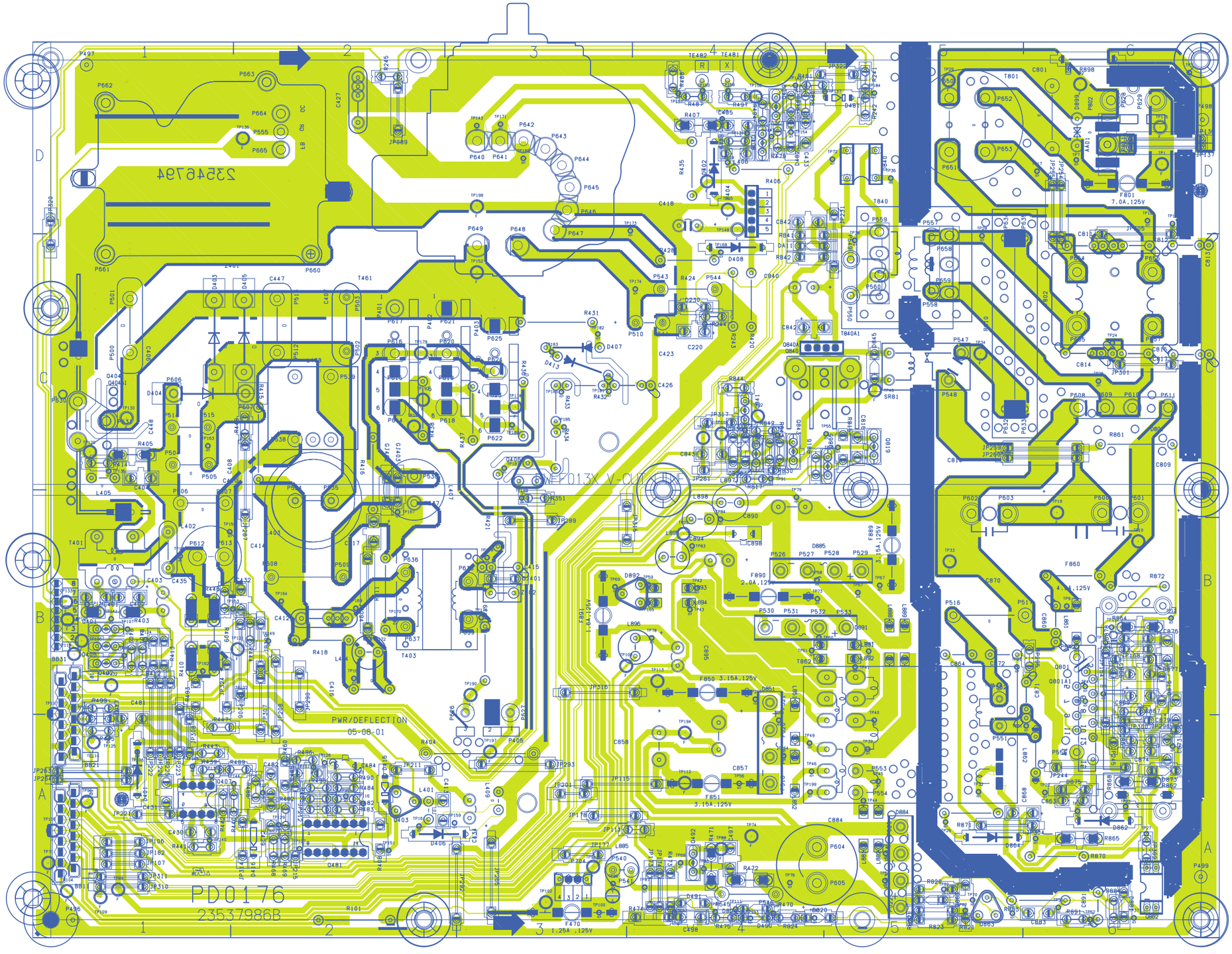
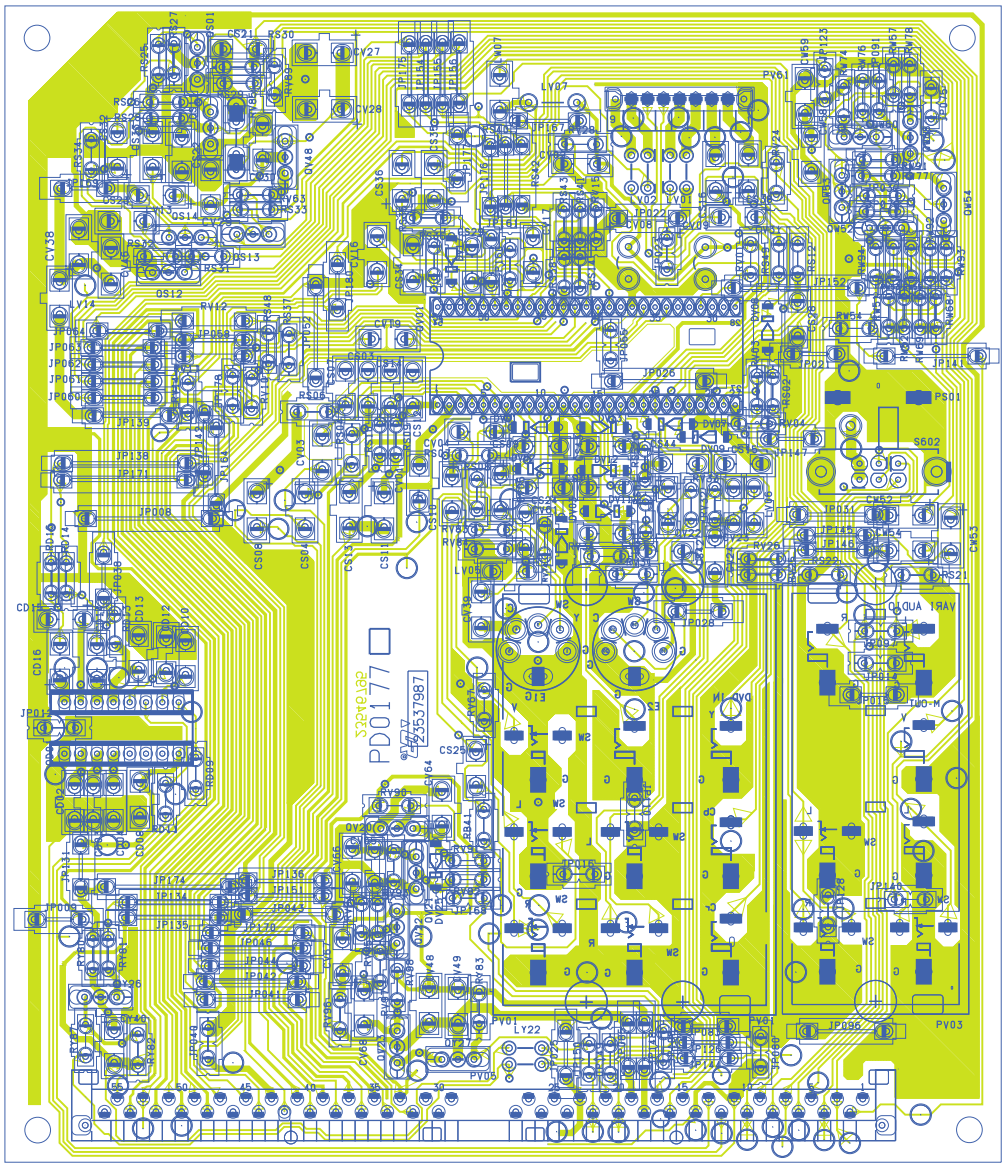
DEF/POWER BOARD PD0176

BOTTOM (FOIL) SIDE



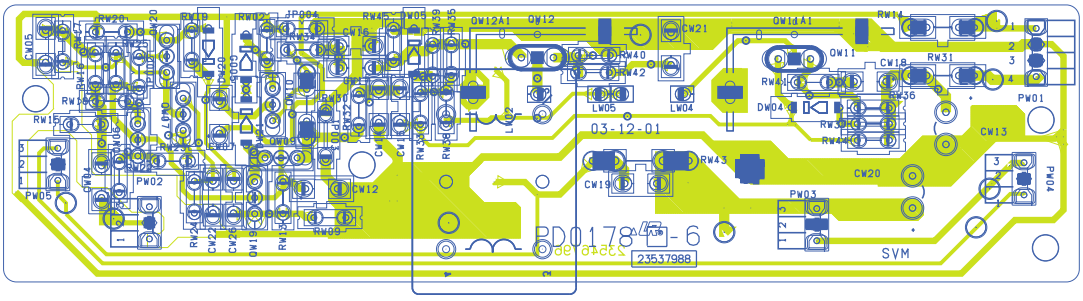
A/V BOARD PD0177

BOTTOM (FOIL) SIDE



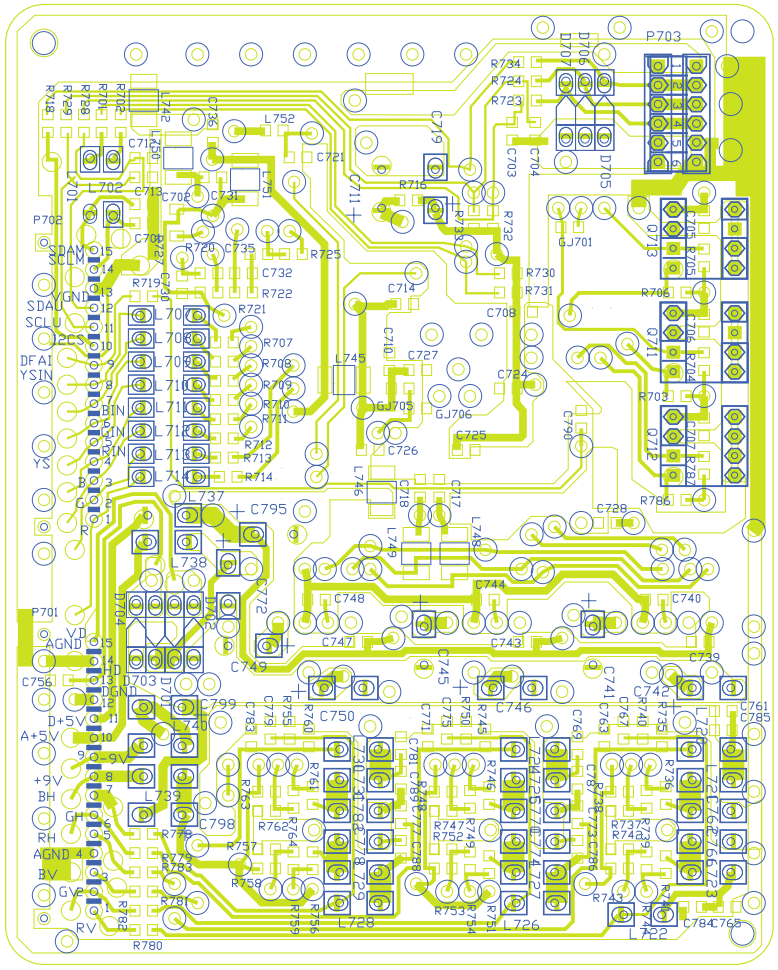
CRT FRONT BOARD PD0178

BOTTOM (FOIL) SIDE



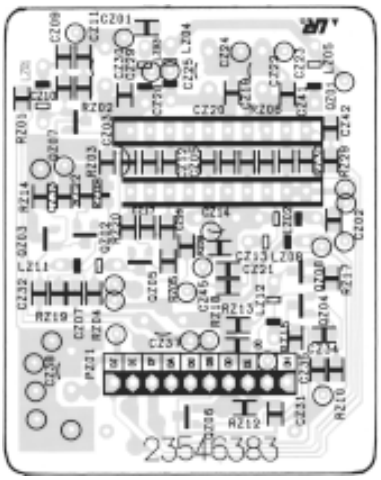
DIGI-CONV BOARD PB9453

BOTTOM (FOIL) SIDE



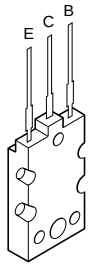
DIGI-COMB BOARD PB9398

BOTTOM (FOIL) SIDE

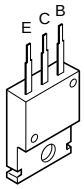


TERMINAL VIEW OF TRANSISTORS

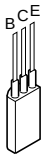
① 2SD2253
(old)
2SC5243



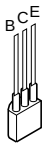
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



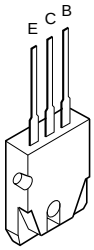
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



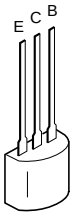
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



⑤ 2SA1788



⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
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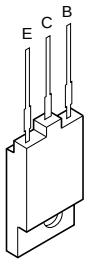
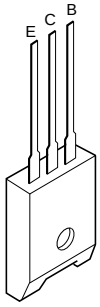
2SD1556
2SD2553
2SC5143



⑧ ON4409



MEMO

MEMO

MEMO

SPECIFICATIONS (Representative: 50A61)

TELEVISION SYSTEM	NTSC standard
CHANNEL COVERAGE	VHF: 2 through 13 UHF: 14 through 69 Cable TV: Mid band (A-8 through A-1, A through I) Super band (J through W) Hyper band (AA through ZZ, AAA, BBB) Ultra band (65 through 94, 100 through 125)
POWER SOURCE	120 V AC, 60 Hz
AUDIO POWER	15 W + 15 W
SPEAKER TYPE	Two 6-1/4 inches (16 cm) round
VIDEO/AUDIO TERMINALS	S-VIDEO INPUT Y-INPUT: 1V (p-p), 75 ohm, negative sync. C-INPUT: 0.286 V(p-p) (burst signal), 75 ohm VIDEO/AUDIO INPUT VIDEO: 1 V(p-p), 75 ohm, negative sync. AUDIO: 150 mV(rms) (30% modulation equivalent, 47 kohm) ColorStream™ (Color Difference) VIDEO, AUDIO INPUT Y-INPUT: 1 V(p-p), 75 ohm Cr-INPUT: 0.7 V(p-p), 75 ohm Cb-INPUT: 0.7 V(p-p), 75 ohm AUDIO: 150mV(rms). 47 kohm VIDEO/AUDIO OUTPUT VIDEO: 1 V(p-p), 75 ohm, negative sync. AUDIO: 150 mV(rms) (30% modulation equivalent, 4.7 kohm) VARIABLE AUDIO OUTPUT 0-300 mV(rms) (30% modulation equivalent, 4.7 kohm) AUDIO CENTER CHANNEL INPUT 300 mV(rms) (30% modulation equivalent, 10 kohm)
DIMENSIONS/MASS	

	Dimension (W/H/D)	Mass
50A61	42-1/4 x 54-5/8 x 20-13/16 inches (1,073 x 1,388 x 529 mm)	217 lbs (98.6 kg)

SUPPLIED ACCESSORIES	Remote Control with 2 size “AA” alkaline batteries

*Please refer to owner's manual in detail.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN